ELECTRICAL SOUTH

JULY
1946

A MONTHLY JOURNAL FOR ELECTRIC POWER COMPANIES • ELECTRICAL CONTRACTORS • DEALERS & WHOLESALERS

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HUNTER FANS.

The Noel Hotel, Nashville, Tenn.

The Noel Hotel in Nashville has long been known for its careful management policy which has built a large following of state capitol visitors.

Now, to add more comfort, there are installed HUNTER ZEPHAIR cooling units on every floor to circulate fresh air through the guest rooms.

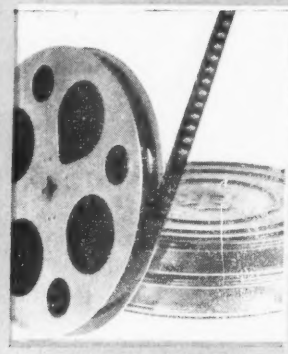
UNTER FAN & VENTILATING CO., IN

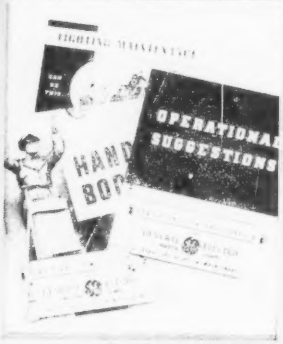
ERAL SALES OFFICE: MEMPHIS, 400 SO. FRONT ST. • EASTERN SALES OFFICE: NEW YORK, 92 WARREN S

WESTERN SALES OFFICE: ST. LOUIS, 1706 OLIVE ST.

ACTION NOW

. . . to help you build a profitable commercial business





Illustrated above are typical war-proved devices featured in the new G-E Program. Brilliant movies, sound-slide films, charts and useful sales aids are all combined in this brand-new, up-to-date program.

Here's a brand-new G-E Program to help Contractors sign up Store Lighting Jobs

It gives you everything you need to coordinate your man power with equipment sales and installation

Four fact-packed meetings show the value of and how to capitalize on modern sales lighting

WITH the new and easy-to-understand G-E Coordinated Sales Lighting Program to provide the facts, figures, and ideas—even apprentices can start more store lighting sales.

Now ready, the program plans for a series of four meetings that give you ready-to-use tools and techniques to: (1) locate and develop prospects and meet their individual needs with modern equipment properly installed, and (2) get better profits from both installation and equipment, increasing your share of today's huge commercial sales lighting market.

It's the most useful practical program ever offered. It's ready to help you cash in—TODAY.

GET ALL THE FACTS

about the G-E Coordinated Sales Lighting Program for Contractors. Don't delay. Call your nearby G-E Lamp Representative for booklet that gives full details.

G-E LAMPS

Constantly improved by research to

Stay Brighter Longer!

GENERAL ELECTRIC

ELECTRICAL SOUTH is published monthly by W. R. C. Smith Publishing Co., Marietta, Ga., and Atlanta, Ga., U.S.A. Subscription rates, United States and Possessions, $1.00 for one year; Canada, $1.50 per year; Foreign Countries, $2.00 per year. Entered as second class matter at the postoffice, Marietta, Ga., under Act of March 3, 1879

Volume 26 Number 7

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Tapes that are Tops

THE UNIVERSITY
TEXAS
JUL 25 1946

Not only are PANTHER and DRAGON Friction and Rubber Tapes attractively packaged for immediate sales appeal, but their physical and dielectric qualities make them tapes that bring repeat orders. Wrapped and sealed individually in cellophane, these widely-advertised tapes have good working characteristics, stay fresh and are free from raveling. There is guaranteed footage in PANTHER and DRAGON Tapes, which fully meet ASTM and Federal Emergency Specifications.

PANTHER and DRAGON Friction Tapes have high dielectric, tensile strength and adhesive qualities. PANTHER and DRAGON Rubber Tapes have this same combination plus the characteristic of fusing securely.

PANTHER

Friction Tape	*Rubber Tape*
No. 8 roll 60 ft.	No. 8 roll 23 ft.
No. 4 roll 29 ft.	No. 4 roll 11 ft.
No. 2 roll 14 ft.	All tapes come in standard ¾" width.
No. 1 roll 6 ft.	Other widths made to order only.

DRAGON

Friction Tape contains 165 feet per pound of ¾" width.
Rubber Tape contains 30 feet per roll of ¾" width.

PANTHER Handy Package

Holds 10 individually wrapped and sealed rolls of friction or rubber tape in No. 8 or No. 4 sizes for counter or shelf.

PANTHER Service Pack

Holds 10 rolls of No. 8 PANTHER Friction Tape only, each roll wrapped and sealed individually.

PANTHER, DRAGON and EXCELLO Tapes are sold only through recognized wholesalers. Further details on these tapes or the name and address of your nearest agent available by writing direct.

EXCELLO Friction Tape

Developed for radio service work where a narrow friction tape is essential. Machine-cut edge prevents raveling. No. 8 size package contains either 2 rolls ⅜" width or 3 rolls ¼" width tape in 60 ft. lengths. Each roll is wrapped and sealed individually in cellophane.

PANTHER AND DRAGON
friction & rubber TAPES
HAZARD
INSULATED WIRE WORKS
Division of The Okonite Co.
Wilkes-Barre, Pennsylvania • Offices in Principal Cities
4603

"Impressed"

Commercial Credit service and policies rate high with a "down-East" veteran merchant

"We recommend your service without any reservations. We have been especially pleased by the high qualifications of your personnel, both in the field and in your Boston and local offices.

"Over a period of 40 years of wholesale and retail merchandising, we have been in direct contact with many nationally known business organizations and none have had policies that [illegible] us more favorably than yours."

COMMERCIAL CREDIT PLAN

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Utterback-Gleason Co., Inc.
Bangor, Maine
Philco Products

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TUNE IN ON THE NEW AND EXCITING SHOW

"SPECIAL INVESTIGATOR"

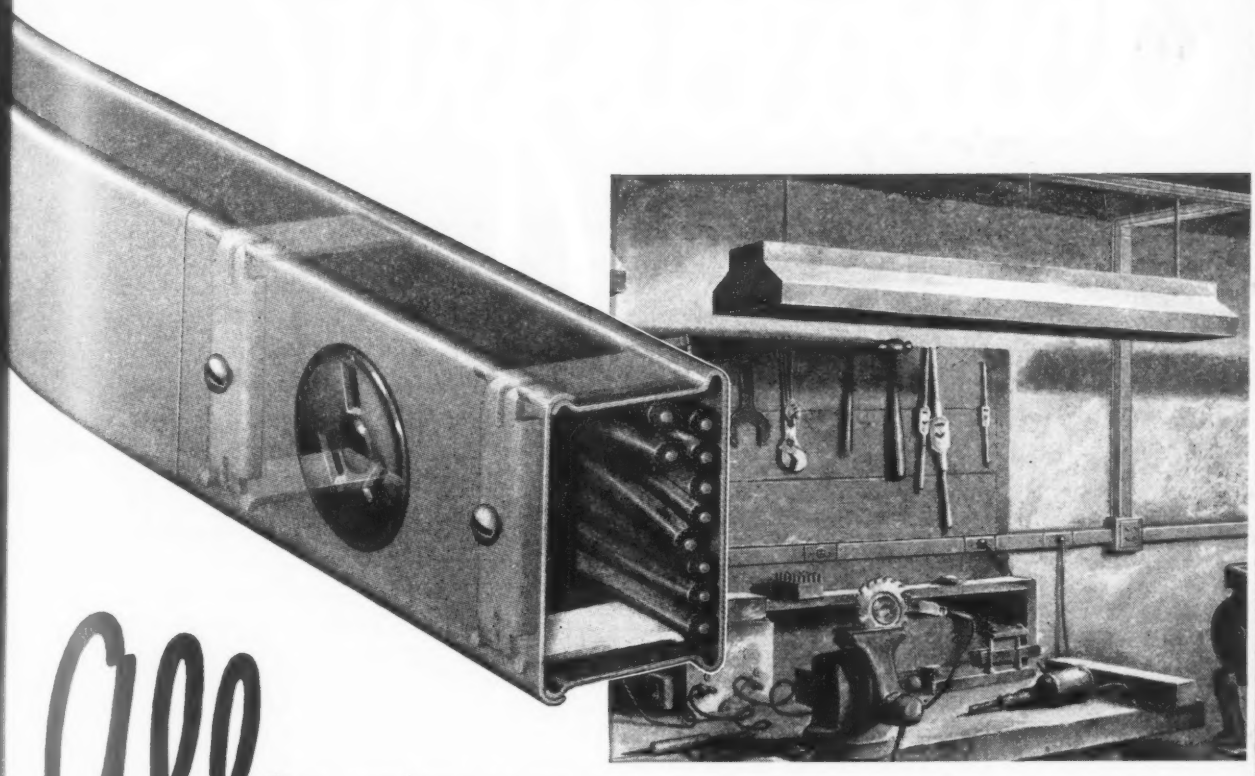
EVERY SUNDAY NIGHT AT 8:30 EASTERN DAYLIGHT TIME
MUTUAL NETWORK . . . COAST TO COAST

COMMERCIAL CREDIT COMPANY

BALTIMORE 2, MARYLAND

Capital and Surplus more than $80,000,000

NATIONAL ELECTRIC



all PURPOSE ELECTRICAL RACEWAY

- **New 2x2 Surface Raceway provides a clear channel for maximum wires**
- **Lay-in feature—pioneered by National Electric—no fishing of wires**
- **Sturdy, flexible, accommodates over 300 manufacturers' devices**
- **Serves every electrical requirement up to 60 amp. loads**
- **Patented bridge—an exclusive feature—provides strong anchorage for capping and fixtures.**

Complete engineering data on request

National Electric
PRODUCTS CORPORATION
Box 897 — Pittsburgh 30, Pa.

One of a series of excerpts from the Hotpoint library of Planned Electrical Merchandising.

how to "SELL THE WOMAN" for appliance profits!

GOOD APPLIANCE SALESMEN sell *MRS.* Housewife first and best. Women are likely to know appliances far better than their husbands...and to be the ones to make the decision to buy. Therefore, to get the order the salesman must be able to answer the standard questions women ask about the appliance they are interested in:

1 Where and how will it fit into her home?
2 Is it simple, practical and easy to operate?
3 Are there special convenience features that will make her job easier? How? Why?
4 Can she see a demonstration — can she operate it herself?

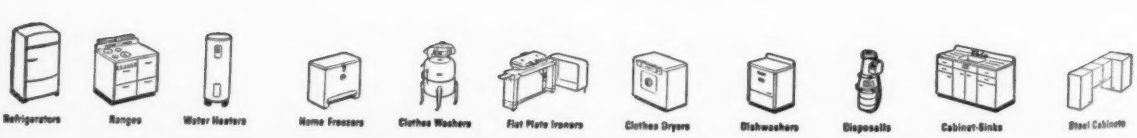
"Sell the woman" on a Hotpoint Electric Ironer by answering her questions like this:

Point out how the beautiful new Flat Plate model will fit into her laundry or kitchen work center with equal ease—and provide more work surface for other operations. Invite her to sit down and operate the ironer. Don't rush her...let her set the pace. Direct her attention to the Moisture Cup that assures dry, crisp ironing and explain why. Show how the Automatic Thrustor is making her work easier. Climax the selling with a demonstration of how shirts and dresses can be ironed as beautifully as flat work.

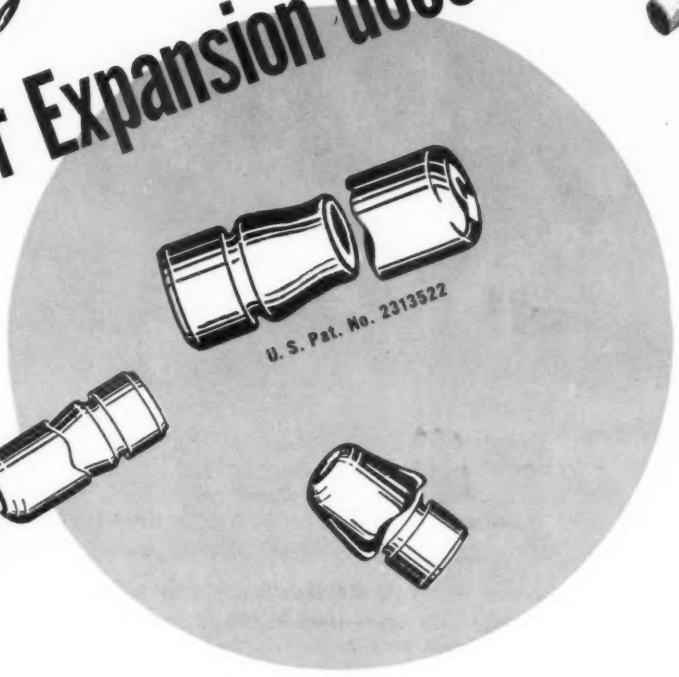
"Sell the woman" to get Hotpoint appliance orders.

Copr. 1946 Edison General Electric Appliance Co., Inc., Chicago

Hotpoint
HOME APPLIANCES
Dependability Assured by 40 Years Experience



Super Expansion does it . . .



- The new all steel anchor, cadmium plated for long life.
- It isn't necessary to have dirt-free holes when using.

it's NEW . . . Designed on true basic principles

here's the SUPER EXPANSION ANCHOR

YOU'VE BEEN HUNTING FOR . . .

SEEING IS BELIEVING

THIS PHOTO PROVES THE REMARKABLE HOLDING POWER

You've seen the rest, now use the best. Make no mistake . . . The Super Expansion Anchor "holds for keeps". Actually it has the holding power to exceed the strength of the screws that are used. Super Expansion Anchors are the answer for securely holding electrical, plumbing and bathroom fixtures . . . carpeting on concrete or marble floors or stairs. For awning equipment, too . . . for sign supports and similar installations. Be sure and insist on Super Expansion Anchors—

See your jobber . . . or order directly from manufacturer.

SALES AGENTS—A.C.E. INCORPORATED, 808 TRANSPORTATION BLDG., DETROIT 26, MICH.

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Local delivery of LAMPS all types...all sizes!

Every commercial shape and size of G-E lamp—incandescent or fluorescent—for indoor or outdoor fixtures—are distributed by Graybar. Clear lamps. Frosted lamps. Colored lamps. Germicidal lamps. Glow lamps. Heat lamps. Flashlight lamps. Yes, and every other specialized type—including the new Circline and Slimline fluorescents.

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Graybar maintains lamp stocks at warehouses strategically located in over 90 principal cities throughout the nation. Although all the lamps you want may not be immediately available, your surest way to obtain them as fast as possible is via Graybar.

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Whatever your lighting requirements, Graybar can impartially recommend the exact lighting equipment for your particular needs from the most complete selection of lamps and lighting units available from any one source.

Our nearest branch office will welcome an opportunity to demonstrate the advantages of Graybar lighting service to you. *Graybar Electric Company, Graybar Building, New York 17, N. Y.* 4668

TO USERS OF LAMPS IN BIG QUANTITIES:

Ask us about a Graybar Lamp Contract, which can relieve you of all lamp-buying details and give you attractive cash savings.

IN OVER 90 PRINCIPAL CITIES

Everything Electrical via Graybar

The Compact Instrument of Broad Utility

WESTON (MODEL 785) INDUSTRIAL CIRCUIT TESTER

(20,000 Ohms per volt-DC)
(1,000 Ohms per volt-AC)

Provides 27 carefully selected AC and DC voltage, current and resistance ranges on long legible scales. A versatile instrument for servicing, plant maintenance or laboratory needs . . . rugged and moderately priced. Details from your local WESTON representative, or direct from . . .

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- Convenient Accessories: Weston Socket Selectors, Model 666. Weston Televerter for 5,000 or 10,000 Volts DC, Model 766

Weston *Instruments*

Weston Electrical Instrument Corp., 686 Frelinghuysen Ave., Newark 5, New Jersey.

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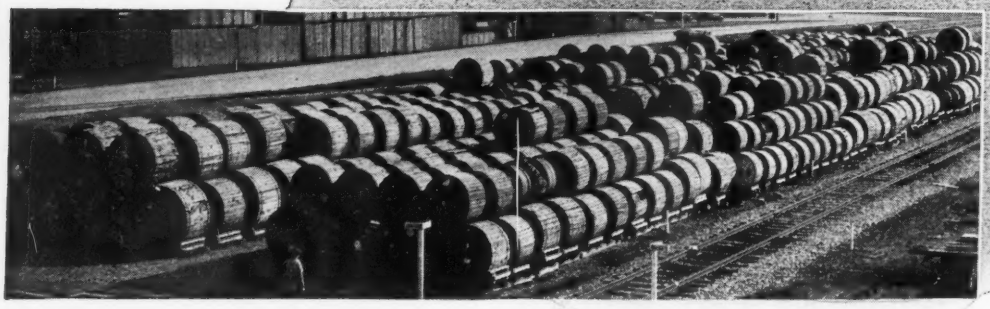
For Quick Sale . . .

ELECTRIC WIRE AND CABLE



The War Assets Administration has a large inventory of government surplus Wire and Cable. It was made by leading manufacturers for war purposes under close supervision to exact technical specifications.

Some of the types and sizes are standard and conform to underwriters' code. Others, while non-standard, are adaptable to a wide variety of uses.

Some suitable applications are circuits for:

power and light, radio, telephone and signalling,
ignition and control, plus battery charging,
instrument and switchboard wiring, welding, etc.

Priced far below its acquisition cost, it will appeal to construction contractors, oil well and mine operators, and ship builders. Ingenious engineers will find many ways to use this material to their advantage.

Get in touch with your nearest Regional Office of the War Assets Administration. Special technical personnel will be happy to give you data on specific types and sizes or arrange for your inspection of the material.

WAR ASSETS ADMINISTRATION

OFFICES LISTED BELOW ARE TEMPORARILY IN RECONSTRUCTION FINANCE CORPORATION AGENCIES

Offices located at: Atlanta • Birmingham • Boston • Charlotte • Chicago • Cleveland • Dallas • Denver Detroit • Helena • Houston • Jacksonville • Kansas City, Mo. • Little Rock • Los Angeles • Louisville Minneapolis • Nashville • New Orleans • New York • Oklahoma City • Omaha • Philadelphia Portland, Ore. • Richmond • St. Louis • Salt Lake City • San Antonio • San Francisco • Seattle • Spokane Cincinnati • Fort Worth (Telephone 3-5381)

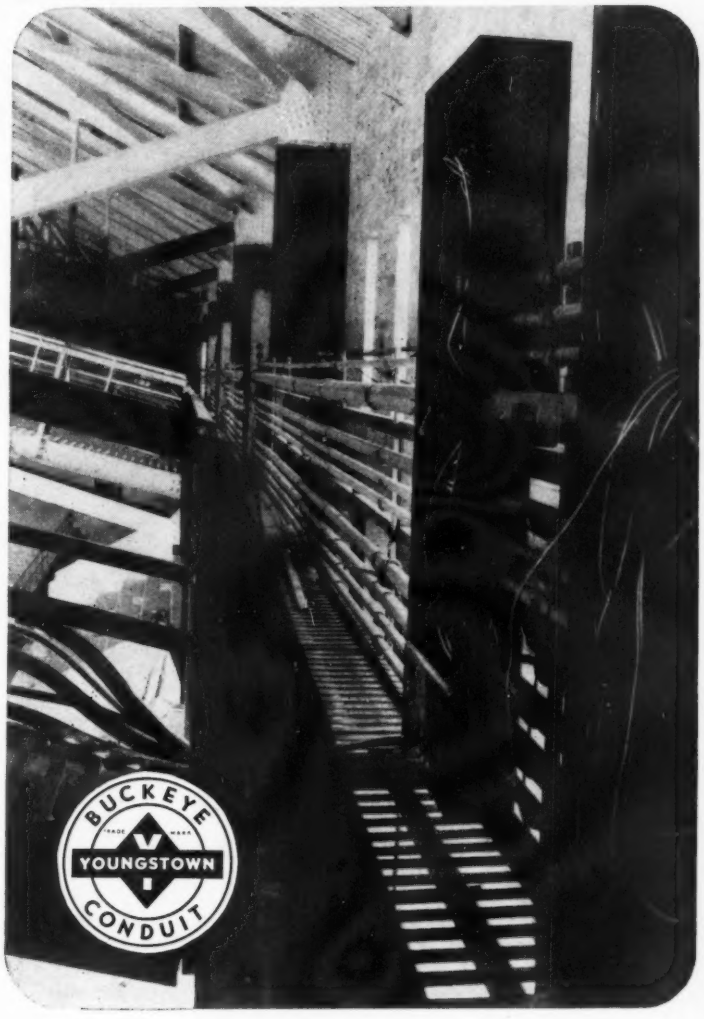
319-2

VETERANS OF WORLD WAR II: To help you purchase surplus property, a veterans' unit has been established in each WAA office

FOR SAFETY'S SAKE . . . USE CONDUIT *(Full Weight Rigid Steel)*

HIDING the Wiring

doesn't make it any SAFER



HIGH up, out of the way, why bother with conduit?

But "out of sight" didn't mean "out of mind" on this job. The hazards of dust and moisture are still present, even though the wiring seems to be out of the way. So the contractor protected the wiring with full-weight, rigid-steel conduit--further simplified his work by using pre-assembled conduit racks.

In new construction, under way now and being planned, you can give owners and tenants maximum protection by specifying and installing Youngstown "Buckeye" conduit. "Buckeye" has proved its dependability in unfailing, successful performance under all kinds of conditions, in all kinds of structures, for more than a quarter century.

In every respect, "Buckeye" full-weight, rigid-steel conduit meets the requirements of the National Electrical Code which says that for hazardous locations and occupancies, the only wiring system approved as moisture, vapor, dust and explosion proof is rigid steel conduit.

Local distributors in all industrial markets have Youngstown "Buckeye" conduit in stock. For their names or for other information, write, wire or phone our nearest District Office.

Ask your distributor for:
Youngstown Buckeye Conduit...Pipe and Tubular Products...Sheets...Plates...
Electrolytic Tin Plate..Coke Tin Plate...Bars...Rods...Wire...Tie Plates and Spikes.

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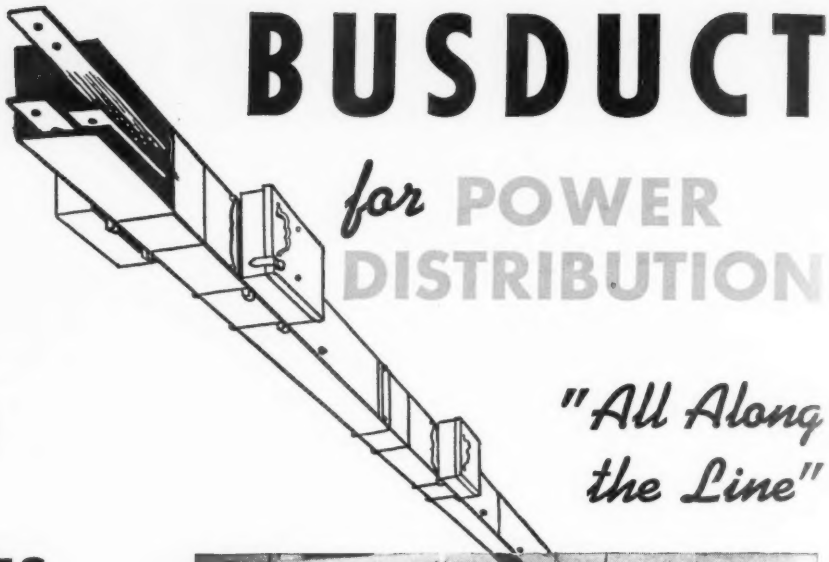
Plugin BUSDUCT

for POWER DISTRIBUTION



"All Along the Line"

Plugin UNITS

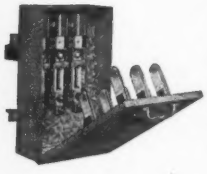
All Ⓕ Plugin Units, attractively finished in pearl grey enamel, are ready to plug into any one of the standard outlets of Ⓕ Busduct . . . and can be mounted on either or both sides of the Busduct section. Their sturdy galvanized sheet steel enclosures and their rugged compression-type bus bar connectors add to the life and service of your Ⓕ Busduct electrical system.

CIRCUIT BREAKER

This Plugin Unit provides automatic thermal protection for circuits and equipment. Capacities: 15-225 amps., 250 and 575 volts.

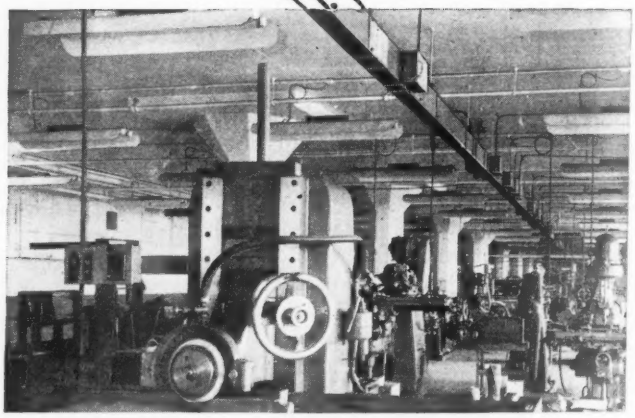
SHUTLBRAK

A quick make-and-break, heavy-duty operating switch . . . excellent for frequent operation. Capacities: 30-200 amps., 250 and 575 volts.



KLAMPSWITCHFUZ

Excellent for disconnect service . . . the hinged-type pull out door contains *both* switch and fuse in one unit. Capacities: 30-200 amps., 250 and 575 volts.



If you are looking for an efficient yet economical way to increase the productive capacity of your plant, then consider Ⓕ BUSDUCT — the modern method of power and light distribution.

Combining high efficiency with greatly increased flexibility and economy, Ⓕ PLUGIN BUSDUCT makes power available *where* and *when* you need it. It reduces to a minimum the costly delays of moving and relocating machinery, and eliminates long expensive lead-ins with a consequent fluctuation in voltage.

Ⓕ PLUGIN BUSDUCT provides all the capacity needed for large and small machinery. Made in standard 10-foot sections with multiple outlets for either Circuit Breaker, Shutlbrak or Klampswitchfuz Plugin Units, Ⓕ PLUGIN BUSDUCT is easy to install and economical to operate. Designed for 2, 3 and 4 wire systems, 250-1000 amp. capacities for 575 volts AC or less.

For full details consult your nearest Ⓕ representative.

Frank Adam Electric Co.

ST. LOUIS, MISSOURI

ELECTRICAL SOUTH

JULY, 1946

VOL. 26 NO. 7

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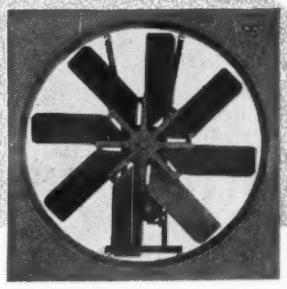
Plan AHEAD with



Coolair TRADE MARK Attic Fans

Breeze-conditioning, pioneered by Coolair, has brought an ever-growing demand for this form of natural cooling, with all its comfort and health benefits. New home construction soon to be under way will add further stimulus to this demand . . . and will also attract many other manufacturers to the business of making fans.

Coolair's leadership in home-cooling, however, has never been disputed, nor have Coolair engineering and high standards of workmanship and performance ever been consistently matched. That is the reason the in-business-to-stay dealer is still looking to the pioneer maker of attic fans for home-cooling units that will give his customers quiet, trouble-free performance for years to come.

There are long-range opportunities still available to dealers who are looking ahead, and who are far-sighted and aggressive enough to take immediate action. Talk with your Coolair distributor at the earliest opportunity . . . start your plans now for a successful future with Coolair.

A full description of the Coolair line, with tables showing models, dimensions, performance data, etc., can be found in SWEET'S CATALOG A.S.H.V.E. GUIDE ELECTRICAL BUYER'S REFERENCE

AMERICAN COOLAIR CORPORATION...Manufacturers

3604 MAYFLOWER STREET

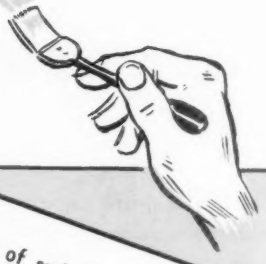
JACKSONVILLE 3, FLORIDA

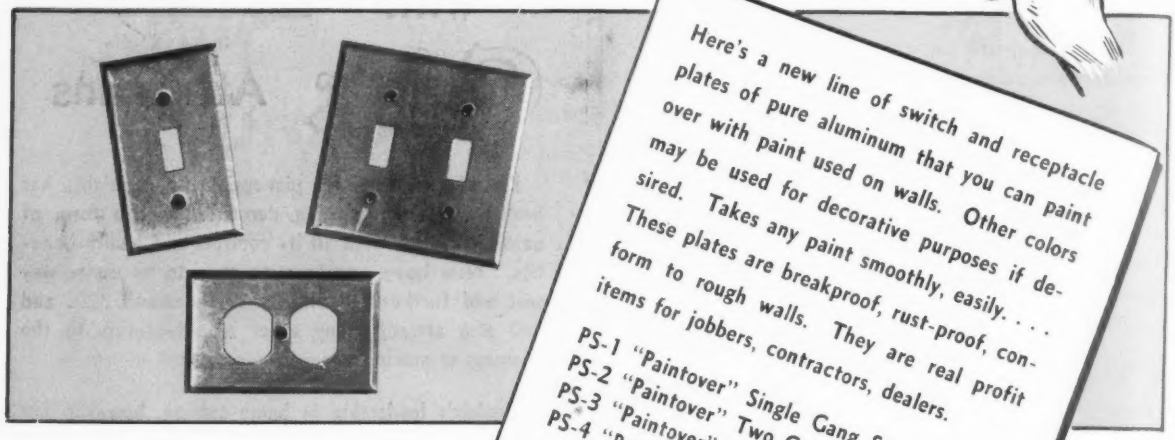
ANNOUNCING

NEW • BREAKPROOF • PROFITABLE

PAINTOVER

SWITCH AND RECEPTACLE PLATES





Here's a new line of switch and receptacle plates of pure aluminum that you can paint over with paint used on walls. Other colors may be used for decorative purposes if desired. Takes any paint smoothly, easily. . . . These plates are breakproof, rust-proof, conform to rough walls. They are real profit items for jobbers, contractors, dealers.

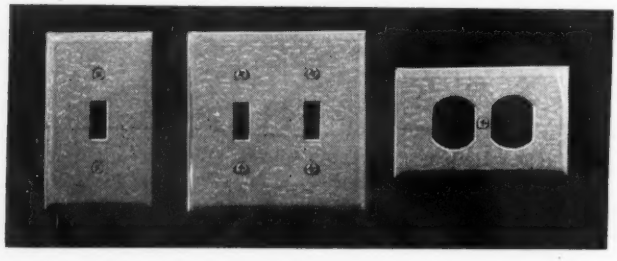
PS-1 "Paintover" Single Gang Switch Plate.
PS-2 "Paintover" Two Gang Switch Plate.
PS-3 "Paintover" Three Gang Switch Plate.
PS-4 "Paintover" Duplex Receptacle Plate.

ALUMINEX

Satin aluminum lacquered finish suitable for every type of commercial use.
AS-1 "Aluminex" Single Gang Switch Plate
AS-2 "Aluminex" Two Gang Switch Plate.
AS-3 "Aluminex" Three Gang Switch Plate.
AS-4 "Aluminex" Duplex Receptacle Plate.

ALUMINEX BROWN

"Aluminex" Plates with beautiful baked wrinkled enamel brown finish.
BS-1 "Aluminex Brown" Single Gang Switch Plate.
BS-2 "Aluminex Brown" Two Gang Switch Plate.
BS-3 "Aluminex Brown" Three Gang Switch Plate.
BS-4 "Aluminex Brown" Duplex Receptacle Plate.



ALUMINEX IVORY

IS-1 "Aluminex Ivory" Single Gang Switch Plate.
IS-2 "Aluminex Ivory" Two Gang Switch Plate.
IS-3 "Aluminex Ivory" Three Gang Switch Plate.
IS-4 "Aluminex Ivory" Duplex Receptacle Plate.

D&M MANUFACTURING COMPANY INC.

Sales Office: 79 Peachtree Place N. W. Atlanta, Ga.
Plants at Savannah and Marietta, Ga.

Mrs. Valeria Freeman, left, home appliance consultant, of Campbell Radio Co. of Shreveport, La., explains features of a refrigerator to a customer. In keeping with the company's policy, service after the sale, she will teach the purchaser how to obtain maximum efficiency from appliance.

SERVICE AFTER THE SALE

SERVICE IS THE BACKBONE of the appliance business and, henceforth, the type of service rendered—more than the trade name of the line handled—will determine who gets the bulk of sales volume in any community. That, briefly, expresses the sales strategy of J. Evan Campbell, manager-buyer of the Campbell Radio Company, of Shreveport, La.

Featuring an aggressive policy of "service after the sale," which means that every electrical appliance sold is serviced during the entire guarantee period, the Campbell company has just opened its enlarged and remodeled store.

Combining service with sales has met with enthusiastic support of customers, old and new, and represents the keynote in the company's 19 years of growth from a radio service organization with a small sales department to a full line appliance business.

The added service is even more effective in selling appliances because of the wartime experience when it was difficult to obtain efficient service on any type of appliance. Under the company's service plan, one week after a sale, the customer is called for the purpose of finding out whether or not the appliance is completely satisfactory.

Calls Assure Satisfaction

Two weeks later, the company's serviceman makes a personal call and inspects the equipment at first hand. Each month thereafter, during the guarantee period, customers are called regarding the performance of appliances sold.

He explains that these customer calls by telephone and in person require the efforts of very clever service and sales people. It must be done in such a way as to have the greatest psychological effect.

"It would be possible for a person with little tact to leave the impression with the customer that we are concerned about the quality of the equipment we had sold," says Mr. Campbell. "This is definitely not the question, as we have selected what we consider to be the leading and most dependable lines available.

"These calls are done with the sincere effort to stop trouble as soon after it develops as possible. We have found, and are having examples brought to our attention, that our present customers are so well satisfied that they are making sales for us."

He points out that even though all merchandise that can be obtained is sold as soon as it hits the floor, these added efforts to please the customer are necessary. This is particularly true in the South, he emphasized, where the trading areas are small, and appliance dealers must depend on selling the same people over and over again.

Thus, it is necessary for the dealer to plan for the future by placing himself in such a strong position with the customer as to have his all-out support. This is in contrast to the larger cities where stores have a large customer turnover and are seeing new and strange faces every day.

Finding that "service after the sale" is an excellent advertising medium, the Campbell Radio Company has diverted a portion of its advertising budget to pay part of service costs.

To insure against unnecessary interruptions during the sale of expensive radios of $500 and above, a complete, modern, sound treated studio has been furnished at the store. The radio is demonstrated to the customer in the surroundings of fine furniture, beautiful draperies, a plush rug and all that goes into the making of an elaborate living room.

"It is necessary that this program be carried through to the fine details in order that each customer receive the same attention as her neighbor," explains Mr. Campbell. "It is also essential that we do everything that we have promised so that the general public will be assured that this is our method of assuming our responsibility, and that we are sincere in it."

The company's experience has proven that customers are willing to wait until merchandise can be delivered under its service policy rather than purchase from someone who can make immediate delivery but may have an incomplete policy of service after the sale.

In remodeling the store, the most practical advantages of a semi-modernistic floor and interior were incorporated without going to the extreme. This has resulted in an appliance store which can cater to all classes of trade.

The new showrooms cover approximately 2400 square feet, with 60 feet of window space. Clever display shelving has been built around four columns which support the building. There are two shelves to a column, each providing complete circular display room for the smaller appliances. They are placed at medium height for easier view by the customer.

The walls have been finished in a light green, with the ceiling a gleaming white. Thirteen fluorescent units provide lighting for every inch of floor space.

In arranging the display, the radio department has been placed on the left of the store upon entering, the greatest possible distance from the kitchen, washing machine and refrigerator display. Thus, radio noises will not affect the sales people in another department.

"In continuing to repair radios for our customers of long standing," explains Mr. Campbell, "we have arranged it so that in bringing sets into the showrooms, the customers must pass near our display of small appliances, phonograph records, electric clocks and other merchandise. We have found that this is an effective way to increase our sales."

To insure against unnecessary interruptions during the sale of expensive radios of $500 and above, a com-

(Continued on page 76)

New and Old Business--Its Opportunities

By J. C. Sharp*

YOU WILL OBSERVE that I prefer the word "business" to the word "load" as descriptive of your product, electric service. If you would consult Webster, you would also cease describing your merchandise as "loads." The word largely implies something that weighs down, burdens, depresses the spirit, etc. The engineers gave you that term, and as a member of the profession, I apologize for them.

The operation of the light and power industry is similar to that of the electrical manufacturers in many ways. You take the raw materials of coal and water and put energy on the bus bars. We take miscellaneous raw materials, make them into finished appliances ready to go. You transmit to the substation over copper; we ship over steel rails to distributors. You distribute to the transformers and through them to the ultimate consumer; we pass our product through a retailer to the same customer.

"Merchandise" No "Load"

But mark this: at no time during this sequence of operations, do we manufacturers consider our merchandise a "load." And for the simple reason that merchandising or selling always has played, and always will play, the most important part in the light and power business, then I recommend a change in name for the great, undefinable commodity that you put in the hands of your customers.

The reasons for this recommendation are perhaps not too obvious. You will agree with me that you can not remain static in business, or you begin to slip back. Therefore you must be active in developing and promoting new business. But many times in the past there have appeared opportunities for new business which were viewed with alarm. This attitude came from the insistance upon viewing the business as a load, a burden, a worry or something other than an opportunity. A mere change in name is not the answer for this, but it might help in developing a new attitude or philosophy.

The engineers will have good reasons for continuing to use the word "load" as a descriptive term. You may have to adopt the technique of the manager who objected to mustaches. An order was issued stating that there were no objections to the employees' wearing mustaches at home, but they had to be omitted while at work!

I am not recommending that you leap into any and all new developments that might be proposed, but it will be best to seize upon each of them as soon as they appear and find out all that you can about them. Look upon them as opportunities until otherwise disproved and not as a load which must be fought. Better to spend the time and money in inquiring instead of in fighting.

An example of a possible or doubtful opportunity for you is house heating.

The head of a large utility, known to all of us, found his company under the gun of large public power authority. A few broad statements, intended to stir up public interest, were made to the effect that electric heat for the home was practical and on the way. Based on previous experience, our friend did not further advertise the discussion by a counter blast, but prepared to investigate the proposition thoroughly. He moved in and arranged sufficient installations to give him test information that could qualify as a source of conclusions. Sufficient homes were equipped with electric heaters and instruments to show what happened under variable weather conditions, living habits, family size, types of heaters, etc.

One factor studied was the demand imposed by two types of heater systems, one being a central warm air system, and the other consisting of unit heaters properly located throughout the home. The tests have not run for sufficient length of time to permit definite conclusions although it would appear that the unit heater is definitely lower in demand. Public power is kept fully informed of the results. Even in this short period, statements have become less positive in nature, since it appears that public power rates might have to be slashed deeply to make the house heating practical *under present conditions*.

It is recommended to you, that this market be looked upon as an opportunity for the future, to the extent that you investigate it thoroughly. House heating can be an opportunity if other new developments change the characteristics of your over-all business. If and when that time arrives, you shall know exactly what to do with house heating. It would not surprise me if some of you had this already under way. To them, might I suggest investigation of off-peak storage, using hot water as the medium.

Some New Opportunities

Let us return now to some old business that has real opportunities, both tried and proved. I refer to the electric home. I refer as a possibility, the consideration of the home as an appliance, with its cord running out to the pole, which may not be new to you. Your attention is directed to the drawing. At the left is a skeletonized range. There are six heating units in it, in close proximity to each other. It is possible that if the surface units scattered around the kitchen and the oven placed in a different location, that food preparation might be slightly more efficient. But can you visualize the success of selling hotplates and an oven? The electric range became successful because it was a package with all of the talking points in one glamorous assembly. The fact that the cost was much lower for an assembly of this size was an important factor.

Now we proceed to the next step, the electric kitchen. You can remem-

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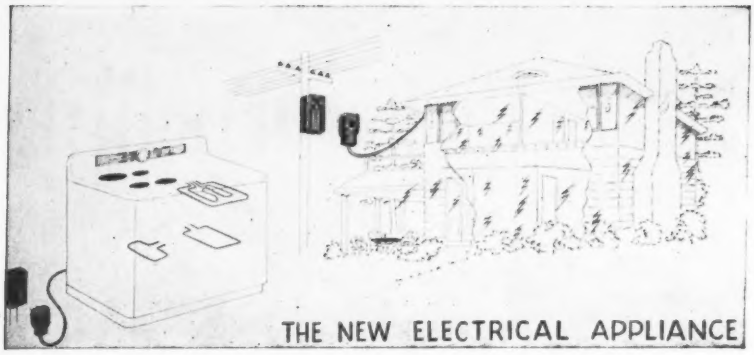
***Mr. Sharp is vice-president in charge of engineering for the Edison General Electric Appliance Co., Inc. This article was adapted from an address presented before the Annual Conference of the Southeastern Electric Exchange, at Edgewater Park, Miss.**



Mr. Sharp urges the electrical industry to look upon the home as one large appliance. Adequate wiring programs must be continued, but they would have more appeal if the current-using devices were emphasized. Promotion of individual items is essential, but it can be made doubly effective against the background of the electric home.

ber when major electric appliances were considered as chattels and not subject to financing under real estate mortgages. This was an injustice since they wore out no quicker than the paint, the screens, roof or furnace. But this has now been changed by consistently pounding away on the idea of the complete electric kitchen. The kitchen was accepted as one large, permanent, electrical piece of apparatus, just as essential to the financial value of a house as the furnace. It would be possible to build a kitchen in one piece but it is less expensive to build and install it in smaller parts. In many cases, the idea of buying it and installing it in steps, suited to the purchaser's financial situation, was important.

The results of our promotion of the electric kitchen are continually surprising us. Two and one half million kitchen booklets have been distributed. Four hundred thousand floor plans have been requested. We have 12 designers working on personalized kitchens and are falling behind. We know that we shall sell complete electric kitchens to a small proportion of those inquiriers. But the total number of appliances that will be sold as the result of the activity will surpass anything in the past. If we could do this with kitchens, why can not the utility industry do the same thing with the greatest electrical appliance of all, the home!

The figure on the right represents the home as an appliance.

If you consider this appliance as one assembled on the job, it will not be difficult for you to accept the idea. Promotion of the electric home, with every electrical item in it that will render a decent service, will result in the greatest surge of new business that you have experienced. Adequate wiring programs must be continued but they would have more appeal if the current using devices on the ends of the wires were emphasized. A seed catalog shows the large, rosy peaches when it is the trees that are being sold.

It is recommended to you that you look upon your domestic business as being derived from this one large appliance. Every plan and every effort should be based on the assumption that every home will be complete with electric appliances insofar as service is concerned. Promotion of the individual items is essential, but they can be made doubly effective by a background of the electric home.

There is another old business which promises opportunities for new business. I refer to commercial cooking, which is old in years but has taken a new lease on life. Our own selfish interests caused us to make a careful study of the possibilities of commercial cooking. I shall quote briefly from a paper presented at the recent E.E.I. meeting.

Table I gives a comprehensive picture of the national potential business. The commercial cooking establishments are classified as to amount of equipment required, rated in kilowatts.

The number, the % of the total number, the kilowatt-hour usage, and the revenue are shown for each type of establishment. Approximately 95% of the potential customers are situated in the A and B groups, which use mostly counter type commercial cooking equipment. These two groups will use 68% of the total kilowatt-hours and will pay 77% of the total revenue

(*Continued on page 20*)

Table I—Commercial Cooking Load Comparison

CHARACTERISTICS OF FOUR REPRESENTATIVE COOKING LOADS

TYPE	A LUNCH COUNTER	B SMALL RESTAURANT	C LARGE RESTAURANT	D INSTITUTION
COOKING EQUIPMENT USED	COUNTER EQUIPMENT	COUNTER AND KITCHEN EQPT.	KITCHEN EQUIPMENT	KITCHEN EQUIPMENT
KW PER ESTABLISHMENT	7.5	25.0	60.0	125.0
NO. OF ESTABLISHMENTS	418,573	83,400	20,877	1,678
% OF TOTAL	79.8%	15.90%	3.98%	0.32%
KW HR. USAGE	31.0%	36.8%	27.6%	4.6%
REVENUE	41.0%	36.0%	20.0%	3.0%

Table II—Establishments per 28,000 Meters

TYPE	NO. OF ESTABLISHMENTS	ANNUAL KWH CONSUMPTION	TOTAL ANNUAL REVENUE @ EXISTING PRICES
A	250	1,266,000	$31,270.00
B	50	1,500,000	27,150.00
C	13	1,125,000	15,075.00
D	1	187,200	2,246.00
TOTAL	314	4,078,200	$75,741.00

Electrical Wholesalers Launch National Program To Improve Industry's Public Relations

BY UNANIMOUSLY endorsing the *Declaration of Electrical Interdependence* and *Tenets of the Electrical Wholesaler*, the National Electrical Wholesalers Association has launched a nation-wide public relations-promotional program designed to increase acceptance of electrical products and establish the creed of electrical wholesalers in terms of services rendered both to suppliers and customers.

The program was presented as a special feature on the opening day of the Association's 37th Annual Convention held a short time ago at The Stevens, Chicago. President John L. Busey, General Electric Supply Corp., presided at the meeting which was attended by approximately 1,000 members and some 500 electrical manufacturers and other guests.

The Declaration, originally promulgated by the National Electrical Manufacturers Association, calls for recognition of unity of aims and interdependence within the industry and the subsequent recruiting of industry employees and their families as volunteer "salesmen-educators." The N.E.W.A. version pledged consumers that electrical wholesalers "will do their part in bringing to the markets more products and better products at less money."

N. J. MacDonald, chairman, NEMA General Sales Promotion Committee, who addressed the meeting, declared that all branches of the electrical industry are interdependent, that the sale of one electrical product often affects the sale of many more products. He cited the adequate wiring program, other industry promotions, and electric range sales, as examples of electrical interdependence as between industry groups and the thousands of individual products often thought unrelated.

"The electrical wholesaler is in the key position in our industry," Mr. MacDonald said. He warned that the industry's future depended on increased consumption, on "greater acceptance of electrical products in all markets," and characterized the interdependence idea as "the one sure way we can all work together to build a highway of demand."

The reading of the N.E.W.A. adaptation of the Declaration was introduced by Herbert Metz, chairman, N.E.W.A. Planning Committee, who pointed out that the electrical industry has "actually built, distributed and installed independence in America from almost everything that has been back-breaking and morale-breaking." And our industry, he said, has recently announced its interdependence.

Following the reading of the Declaration by a "Town Crier," the document was signed by President Busey.

Mr. Metz then described the Tenets of the Electrical Wholesaler as one answer to the "common sense of good public relations."

"It is time," he said, "we stood up to be counted, time to tell exactly who we are, and what we do." He emphasized the need for much greater and sustained sales effort by electrical wholesalers, adding "simply because there cannot be and never will be mass production without the key steps of mass selling and mass distribution."

The Tenets, which were read by the secretary, Alfred Byers, from the

TENETS of the Electrical Wholesaler

We, as members of the National Electrical Wholesalers Association, realizing that the electrical wholesaler's *key position* in our national economy requires a specialized program of service to manufacturers and buyers alike, do hereby state the following to be our tenets:

1. We *serve the manufacturer* by performing the essential economic functions of (a) carrying adequate stocks of his products in marketing centers, (b) promoting and selling his products to customers in all types of markets, (c) reporting requirements of local markets, (d) performing credit and collection functions, maintaining continuous investment in receivables as part of the credit function, (e) coordinating the needs of specifiers (architects, engineers, etc.) relative to product use, (f) assisting in the development of new markets and the promotion of new products. As appliance distributors, we promote an active public desire and demand for specialty electrical appliances through specialty selling methods.

2. We *serve our customers* and, indirectly, the general public by performing the essential economic functions of

(a) carrying local warehouse stocks available for quick delivery,

(b) assuming investment and obsolescence risks,

(c) supplying needed information and data promptly,

(d) providing engineering and other specialized assistance relating to products and their applications,

(e) providing specific maintenance products to promote more efficient and economical production.

As appliance distributors w

(f) help to create sales of specialty electrical appliances,

(g) train retail sales personnel,

(h) initiate a variety of specialty selling sales programs and cooperate with the local utility and others on special campaigns,

(i) train dealers in carrying out manufacturers' service policies to the consumer and arrange for continuity of service on appliances previously sold.

3. We believe that, in the conduct of our business as a wholesaler, we are helping business, both large and small, to market its products with a minimum investment in stocks and organization on its part.

4. We are justly proud to be a part of the great electrical industry whose destiny, since its inception, has been one of ever expanding service to our country in every phase of its life and its work.

5. We believe that our nation grows and prospers through the continuing process of providing more goods, and better goods, for more people at lower costs and that, as electrical wholesalers, we are privileged to perform, and do perform, an essential service toward that, our common goal.

"viewing screen" of a large television set, stated that "NEWA members realize that the electrical wholesaler's key position in our national economy requires a specialized program of service to manufacturers and buyers alike."

Distributors' Place in Economy

Arthur H. Motley, president, Parade Publication, Inc., was guest speaker at a dinner meeting. "The most important people in our postwar economy are those in the field of distribution," Mr. Motley declared. "It is essential that more money be spent in this field as that would be the most important investment that could be made toward postwar prosperity. The thinking and talking now about shortages obscures the real issue which is simply how big and how efficient will our distribution system be. We need to sell fifty per cent more goods and services, and find from eight to ten million more jobs than prewar."

Mr. Motley pointed out that "while the demand for products is very large, people are not automatically going to rush out and buy everything in sight." There have been plenty of phony estimates and duplicates in surveys and on order lists, he said.

"In order to get a required national volume of 120 to 140 billion dollars, wholesalers must raise their sights," Mr. Motley continued. He described efforts to put a squeeze on distribution as "cutting our own throat." He pointed to the fact that income levels were considerably higher than in prewar years, and that as a result there were many new consumers for products of all types. Our economy is not based on working to earn the essentials of life, he said. When other purchases are postponed, a depression usually results.

"The problem is entirely one of selling," Mr. Motley emphasized. "You are the job makers—but needs do not make jobs. We must create wants. Distributors are the 'want creators' of America."

In what he characterized as the "battle for distribution," Mr. Motley described a four-point program based on recruiting of more sales, personnel, better selection, training, and indoctrination. He referred to the NEWA Scientific Personnel Selection Program as an important means of developing greater productivity and greater efficiency throughout the field of electrical distribution.

Following Mr. Motley's address, Wallace J. O'Brien, Commander, Electric Post No. 769, The American Legion, Department of Illinois, presented a testimonial of appreciation to NEWA which read in part: "In recognition of services to and loyal cooperation with the American Legion in the promotion of a program for the betterment of the community, state and nation."

Also at this dinner meeting, Mr. Busey presented a gavel to D. Lyle Fife in recognition of his service to the Association and the industry as president of the Association from 1942-44.

Warren I. Bickford, who had announced his retirement, received a gold watch which was presented to him by Mr. Busey on behalf of the entire membership.

Reconversion Disappointing

At the opening session, members and guests heard an address by President Busey in which he stated that the industry as a whole had been disappointed at the slow reconversion to production of civilian goods and the shortages that had resulted. He blamed strikes and Government controls over production and prices as the principal contributory causes.

Other speakers at that session were Charles G. Pyle, managing director, who reported on Association work during the past year, and Dana T. Ackerly, Association's counsel.

Details of the Association's recently announced program of Scientific Personnel Selection, which includes aptitude testing, were outlined by Morris Pickus, president, The Personnel Institute, Chicago, whose organization has been retained to help prepare and conduct this national activity. A preview of the Edison Electric Institute—NEWA Basic Sales Training Course was conducted by E. B. Ingraham, chairman, NEWA Appliance Division, and Robert C. Hill, director, Appliance Division.

Meetings of the Apparatus and Supplies Division and the Applinace Division were presided over by Mr. Bickford and Mr. Ingraham, respectively. At the former meeting the speakers were W. P. Coppinger, chief, Electrical Branch, War Assets Administration; Mark Eldredge, chief, Electrical Equipment Section, WAA, and W. H. Robinson, Jr., manager, Advertising Division, Lamp Department, General Electric Co., Cleveland.

Meetings of the Executive and Management Committees were held immediately prior to the opening of the convention. Several committee meetings dealing with specific electrical products were also held.

John L. Busey, President, National Electrical Wholesalers Association, signs the Declaration of Electrical Interdependence which was unanimously endorsed by the Association at its 37th Annual Convention. The text was read by "Town Crier" Fred Sullivan, famous NBC actor, to the audience of NEWA members and guests that totaled more than 1000 persons.

New Insulation

A new insulation, composed of silicones, mica and glass fiber, has been developed for electrical windings. This reduces their weight and allows them to operate at high temperature.

Electrical Novelty of 1884

European railroads used electricity to increase the comfort of passengers as long ago as 1884. They installed electric foot stoves fitted with coiled heating elements. Current was generated by a dynamo driven by a car axle.

Accounting for Contractors

1. Danger - Sharp Curve Ahead

By Guy M. Carson*

The value to electrical contractors of good accounting procedure will be greater than ever in the period ahead of changing conditions and costs. This is the first of several articles on this fundamental of good business.

THE NEXT FEW YEARS are undoubtedly going to bring plenty of business to the energetic contractor. You should "Go to Town", and you will, if you watch your step. But with high material costs, high wages and inexperienced or green help (some of which you'll have to have because there is not enough seasoned help to go around), you can go broke quicker than ever before if you are not "on the beam."

You will have to be a good business man as well as a keen technician and contractor if you are to make the money you should make during the years immediately ahead.

Does that sound depressing? It shouldn't! Maybe it means you are going to get more satisfaction out of conducting your business than ever before. It can very well mean just that.

It does mean you are going to have to watch your business and know at all times exactly where you are—which means good bookkeeping and cost records. What good is it going to do you to make careful and accurate estimates and secure contracts on which you should make money unless your costs of doing the job come reasonably close to your estimates? You've got to know how you are coming out on your jobs—you can't guess! Don't think you're making a million dollars just because you are doing a big volume of business.

A number of years ago, when the writer was doing public accounting, a building contractor yelled for help. This client had several buildings in various states of completion. Most of these buildings ran into considerable money. It was his practice to complete the buildings and sell them individually and up to that time he had made considerable money doing it.

The problem, however, which was causing him great concern, was that he was unable to tell exactly how much each individual building cost. He realized the danger of this situation, but being something of a promoter and speculator, was not very strong on detail. He had made money and to him that was all that mattered. He couldn't be sold on the idea of an adequate accounting system which would show him the cost of each job and better still, the cost of each operation. If he had been able to see this, he might still be a prosperous contractor and builder. According to his theory, it was "too much trouble."

To make the matter a little more complex, he also dabbled in raw hides. As a matter of fact, he had a cold storage warehouse half filled with raw hides. This was about the time the depression struck, and when the price on hides went down, his affairs became so involved that he went broke. Neither he, nor anyone else, could ever tell for sure whether he "lost his hide" because of the "hides" or because of his sloppy methods in the construction field—or both. (Moral: Don't have too many irons in the fire.)

Dollar-and-Cents Value

I never forgot that incident. It was a tragedy which might have been avoided. If, from the beginning, this contractor had had a good accounting system, I believe he would have made enough money in the contractual field so that he could have withstood the loss of his hides. Why? Because he had some operations which were costing him too much, but he did not know which ones—so he could not correct the situation.

Likewise, many a good man has failed to make good in a big way simply because he did not know his overhead; therefore he could not control it, and did not know when it increased too much, nor how much to add in his estimates to his direct expenses to cover that overhead.

No matter how big or how small the operation, such information is priceless. Therefore, any bookkeeping system to be of assistance to the contractor must not only furnish this necessary information, but also supply the cold facts so that the contractor or builder can tell as he goes along how he is coming out on each job—whether he is making money or losing money, or on what operations a profit or loss is being sustained.

Upon the completion of any job, the contractor must be able to tell how much actual, or net, profit was made on the entire project.

Today's great need for new homes, buildings, construction of all kinds, relighting, remodeling, maintenance and repair, recalls and re-emphasizes the need for the kind of records which are of real value in this field.

If you have any doubts whatever about the adequacy of your record keeping, it is good to know that a strictly "tailor-made" system for the contractor can be obtained.

In addition to the previously mentioned essentials, the contractor's system should give in simplified form all the information that is needed to figure profits, percentage of overhead, expense, income tax, Old Age Benefit or Social Security Tax, State Unemployment Compensation Tax and Federal Unemployment Compensation Tax.

What Accounts to Keep?

Years ago, before Income and Social Security Taxes, and before the days of high costs and keen competition, ac-

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counting records were kept largely for the purpose of preventing someone from beating the business man out of money. In these days of more complex business operations, that is perhaps one of the least important reasons for keeping bookkeeping records.

Doing business under present day conditions, the boss can figure himself out of more money one way or another than most of his customers or employes can.

Today there are five principal reasons for keeping accounting records:

(1) To keep a record of your accounts—how much is due you—how much is due others, etc.

(2) Uncle Sam and his taxes.

(3) Know your costs—how you are coming out on individual jobs and operations.

(4) Know your percentage of overhead expenses.

(5) Business management.

Taking each of the above in turn:

(1) It is important to know who owes you money and how much, and how much money you owe, and to whom, and to keep a record of your assets. That's fundamental.

(2) Uncle Sam says you must pay Income Tax, Old Age Benefit, Social Security, and other taxes. This may not be the most important reason for keeping good accounting records, but it certainly is a very necessary reason for keeping them. In fact, the law says you *must*.

(3) At the end of the year, perhaps you know that you have made money because you are worth more than you were at the beginning of the year, and that's a pretty good way of telling whether you have made a profit. But do you know your costs? Do you know on which jobs you made your profit?

If you are the type of contractor who has several jobs running at one time, you may be losing on some and making on the others, and never know the difference, because at the end of the year you know that you have made money. Just think what it will mean to you if you know the *type* of jobs on which you lose money. You can then revise your quotations or leave such jobs alone and make more profit.

(4) Knowing your overhead expenses is absolutely essential. Overhead is a stumbling block over which two out of every three business failures have stumbled. Many a contractor started operating from his own home where his overhead was very small. He would add a percentage to each estimate to take care of his profit, and that was that. Later he broadened out. He opened up a place of business. He had rent, telephone, clerical, and other expenses. Perhaps he had one or many trucks or delivery wagons. Obviously he had to get these overhead expenses back in one way or another.

Maybe you are that Contractor. If so, maybe you figured that the increased volume of business which you were able to do more than covered your overhead. Maybe it did. But if you don't know, you are a speculator, not a business man. Even if you are still the small operator who has no overhead, you should still keep your records in a business-like way—it may be the means of your getting big some time.

What Kind Are You?

You may be one of those individuals who love to gamble, and take a chance once in a while, and prefer to do business that way, and you may be fortunate enough to get by with it for an indefinite period of time. Some men are lucky enough to operate on that basis, but even if you are that type of man, Uncle Sam says you must keep certain records for the well-known tax reasons, so why not keep proper records which mean something?

(5) A "manager" has been jokingly described by someone as "The man who makes decisions and who is *sometimes* right." Seriously, being a good manager and making the right decisions is not difficult if you have all the facts.

Here's an example: We know a contractor who owned and operated a truck for delivering materials to jobs. A dependable trucker made him an offer to buy the truck and deliver his materials at so much for each delivery. This contractor referred to his records, saw he would save more than $100 per month by the new arrangement. He knew that the new arrangement would be very satisfactory. Therefore, it was easy for him to make a decision.

If he had not had information which showed him the cost of operating his truck, he probably would have gone along as he had been doing, feeling that he was a very good manager, indeed.

No one doubts that there is a "Sharp Curve Ahead" for all contractors. For it to be negotiated safely and profitably, let's follow the "rules of the road" which advise the driver to "Have Full Control"—exercising due caution.

You are going to have a "Sharp UPWARD Curve" in business. That you may also have a "Sharp Upward Curve" in profits is one of the objectives of an accounting system. With "Full Knowledge" you can have "Full Control" which means profits — not headaches; black figures, not red.

New and Old Load— Its Opportunities

(*Continued from page 16*)

of this class of business.

This information should give the utility and the manufacturer considerable to think about. The glamour of the large restaurant and institution has caused us to devote, proportionately, too much time on them, and too little attention has been given to the groups A and B. I can assure you that this study has guided the manufacturer's thinking to the point that greatly improved counter appliances will be made available at reduced costs.

Table II will interest you since you can apply the figures to your own territories. This chart shows the average numbers of various commercial cooking establishments in a unit of 28,000 meters of all classes. This unit was chosen as sufficient to support one large institution. Our studies found that there are 1.1 to 1.5% of the total meters (all classes) which are located in food serving establishments.

The number, the kilowatt-hour consumption, and the annual revenue for cooking for each type are listed. By applying these units to your own territories you will have an approximation of the opportunity for new business. It is recommended that you consider this business, keeping in mind that you have the greatest potential in the groups A and B. When the new appliances are available, they can be easily transported, demonstrated, and sold at a price less than an average day's receipts at the lunch counter. This is indeed an opportunity!

The Liquefied Petroleum Gas industry is making tremendous progress as you know. The competition is ugly since you have a number of one man utility companies springing up in your territory. The usual methods of meeting competition by improving your product or lowering prices do not answer the problem in this case. Your product is perfect, your service is excellent, and your prices are satisfactory. That leaves sales and promotion as your only hope.

The same old selling methods that were successful under other conditions will function in this situation. People in small towns and on the farms are as susceptible to the modern idea of the electric home as are the city folks, but they have to be contacted and sold on the idea. Advertising programs, sales plans for the dealers, your own outlets in the small town rural area, publicity in the small town rural news media, and the consumer education program on the advantages of the electric home are the only answers.

Smashing five-column newspaper advertisements such as this were used regularly during the New Orleans contest.

50 Better Living Appliance
PRIZES you can win!
1st PRIZE MODEL KITCHEN
Prizes worth $5,000
HERE'S WHAT YOU WIN
FORTY-NINE OTHER PRIZES
EASY RULES
THE ELECTRICAL ASSOCIATION OF NEW ORLEANS, INC.
See Your Appliance Dealer For Contest Entry Blank

Electrical Living Contest Develops Firmer Demand

When New Orleans housewives opened their morning newspapers recently, they found something they'd been waiting four years to see—news of electrical appliances. And the appliances—more than 50 of them, worth some $5,000—were offered to them free.

The news housewives saw that morning was announcement of a contest sponsored by the Electrical Association of New Orleans, Inc., an organization comprising contractors, appliance dealers, appliance wholesalers, New Orleans Public Service, Inc., and Louisiana Power and Light Co.

The contest offered electrical appliances of all kinds, ranging from a complete kitchen unit with everything installed, even to the wiring, down to an electric iron, as prizes for writing "in 250 words or less, why you want a particular appliance." The winning why-I-want-it essay would win the appliance it described.

The New Orleans contest had been in the plan stage, actually, for many months, while the Electrical Association ironed out details and arranged for the appliances it would give away as prizes. Looking past the present selling period during which appliance demand exceeds supply and moving appliances is no chore, to a future when it will become a strong merchandising field again, the New Orleans Electrical Association planned its contest to realize three aims.

Number one was to build solid demand. This, the Association planned, would be accomplished in two ways: by familiarizing New Orleans consumers with a wider field of appliances than they knew heretofore (since they were invited to enter as many times for as many appliances as they chose); then to let the customer convince himself and sell himself on modern electrical appliance service by writing on its value.

Objective number two of the contest was to build goodwill for the electrical industry as a whole and for New Orleans appliance merchandisers in particular.

The last objective was one of immediate utility – testimonials entered in the contest may, it is hoped, furnish the Electrical Association of New Orleans and its retailer and wholesaler members with tested ad copy, selling-appeal twists which will prove effective because they are based upon what the consumers themselves have indicated they want in electrical appliances.

The first prize offered was a modern unit kitchen, complete even to installation of electrical wiring and exhaust fan. Altogether, the winner of this first prize received these appliance items: dishwasher, sink and garbage disposer, proper lighting equipment, kitchen exhaust fan, eight cubic foot deluxe electric refrigerator or home freezer, automatic water heater—30 gallon capacity, range, and storage cabinets.

Besides the grand unit kitchen prize, other prizes offered were a dishwasher, sink and garbage disposer; portable room air conditioning unit; six cubic foot home freezer; four cubic foot freezer; eight cubic foot electric refrigerator; attic fan—installed; automatic washer; combination radio-phonograph; electric ironer; console radio; wringer type washing machine; table model radio; 30 inch window ventilating fan; vacuum cleaner; ceiling fan; electric blanket; 16 inch oscillating fan; 12 inch oscillating fan; sun lamp; electric roaster; electric food mixer; ten floor lamps (one to a winner, of course); an automatic electric toaster; five prizes of automatic electric irons; two heating pad prizes; and ten electric clocks—an array of scarce, waited-for electric appliances that hit the appliance-hungry New Orleans consumers right where they lived.

Each of these prizes was described in a booklet distributed by New Orleans Public Service to 60,000 New Orleans homes, and to 10,000 homes in the trade territory surrounding the city by Louisiana Power and Light Co.

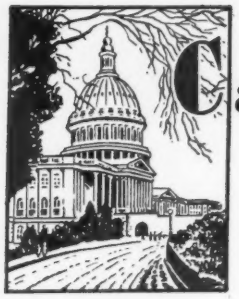
Entitled "Stars to Brighten Your Housekeeping," this booklet was designed to sell electricity and the advantages of electrical service and gadgets, from refrigeration to electric blankets.

To secure the contest entry blank, consumers were exposed to the selling messages put across by the booklet, because their blanks were the books' center spread.

The 60,000 Orleanians, and 10,000 residents of the city's trade territory to whom books were given by the two utilities, received them without troubling to ask; they were distributed house to house in the respective territories by Public Service and Louisiana Power and Light.

Since, however, each consumer was

(Continued on page 74)



Capitol Comment

An informal discussion of matters of timely interest among key men in the government as observed by the Business Press News Bureau.

A MORE FAR-REACHING experiment than that at Bikini is being undertaken in the field of price control. While the application of atomic energy to warfare may have an important bearing on the continuation of our civilization, developments in that field will take time. Congress and officials in the executive branch of government, concerned as they are with the possibilities of atom bombs, are more interested at the moment in the great economic experiment in removing most of the controls on prices.

Removal of price controls will be regarded as a test of the free enterprise system. If industry provides enough production to keep prices at reasonable levels, its prestige will be enhanced.

If it fails and prices go to high levels and remain there very long, it not only will insure a return of controls but it will pave the way for socialistic schemes. It would be the best example the proponents of full employment at government expense could wish. They would play up the failure of an uncontrolled economy to protect the consumer. The public then would have less confidence in private enterprise. It would be much easier for the planners to step in and say government must do more.

Some of the ardent proponents of free enterprise among public officials feel that business has taken an unnecessary risk in playing such an important part in the termination of effective price control. They feel business should have waited a little longer. They fear the action has been taken too early before production of many items can hope to meet enough of the demand to prevent spectacular increases in price.

Great Opportunity Seen to Impress The World

Other officials, particularly in the legislative branch, feel that this is a great opportunity for the free enterprise system. It is known abroad as the American system. It is on trial before the world. For that reason there is a feeling on Capitol Hill that private industry should take over now when success will mean more than would be the case nine months hence.

Studies that have been made of black markets in foreign countries show that they are very sensitive to even a relatively small flow of production. Black markets are highly speculative. Practically all participants are operating on a shoe string. They do not create good will or a following of customers. They provide no service and if goods are not as represented they cannot be returned.

The use of advertising showing that a flow of goods is moving will do much to frighten black marketeers into reducing their prices. In China it is regular practice to start rumors that new supplies are about to come on to the market whenever it is felt that the price of any article has reached vulnerable levels. Usually a well-planted rumor causes a substantial break in prices.

In America where capacity to produce has impressed everyone, it should not be as difficult to discourage hoarding and speculative maneuvering.

Production Increases Materially In June

Industry is showing great ingenuity in finding materials. This is shown by the June production figures. Because of the strikes there have been acute shortages of steel, coal, copper and other basic materials. Despite these handicaps, ways are being found by most manufacturers to step up production. It may be that goods are being held in storage awaiting price increases but that practice must not be general as the total volume going into distribution is enormous. This is shown by the quantity of merchandise freight and express and by sampling among mail order houses and department stores.

"—and it instinctively picks ont the dirtiest places."

CPA reports that industry is cooperating in the effort to channel production to the more essential users. For example, it is more important that houses have heating equipment than washing machines. As a result, the furnace and radiator manufacturers are getting more materials than are the washing machine makers. Regardless of the high output of steel and coal, it will be many weeks before the pipelines again will be full and before normal stocks can be replaced.

Most producers and distributors are as interested in preventing hoarding as are public officials. Strenuous voluntary efforts are being made to circumvent those who are unmindful of the public interest.

New Controls Likely If Prices Skyrocket

Everyone recognizes that if prices increase inordinately that Congress will clamp on controls again. If controls are restored, wage regulation doubtless would be included. That prospect is expected to deter the unions in the basic industries from being too quick to demand another wage adjustment. That problem, however, may have to be faced six months from now. In the meantime, the chief difficulties officials expect to encounter will be labor troubles in small plants. Many of these plants make parts which are essential to the operation of larger industries.

One outcome of the weakening of federal controls is the transfer of greater responsibilities to communities. Many labor disputes can be handled best at the local level. Once a controversy is referred to Washington, it becomes entangled in procedure and takes on an aspect that makes a big issue of what originally was a relative simple matter.

Officials Divided on Foremen's Unions

Non-political officials, who try to take unbiased views on labor matters, are divided on the question of fore-

(Continued on page 74)

ELECTRICAL SOUTH
NEWS BRIEFS of the INDUSTRY

Veterans Will Get First All-Electrical Kitchens

WAR VETERANS' housing will get all-electric kitchen packages of major appliances immediately as a result of a voluntary allocation plan announced by Edison General Electric (Hotpoint) Appliance Co., Chicago manufacturer. An initial allocation of 1,000 ensembles will be shipped for veterans by August 15, Ward R. Schafer, vice-president, said.

Outlining a program under which builders must show that "a veteran will actually occupy the house," the official said that careful distribution plans had been formed to assure equal distribution in all parts of the nation. In the Chicago area approximately 50 ensembles will be allocated, New York area will procure about 150, and Los Angeles about 25.

Suggesting that other major appliance manufacturers may follow this action, Mr. Schafer explained that a prime object of his company's move is to "break the stalemate that is keeping veterans from moving into completed homes because needed electric equipment is unavailable."

A complete "electric kitchen package" was described as an electric stove, refrigerator, cabinet sink and five wall- and base-cabinets. The retail price delivered to the homesite is between $475 and $500, according to the specific appliances chosen. The principal added cost for installation would be connecting the sink, since other equipment is "plugged-in or hung on stripping," the official said.

Asserting that this action is a result of long-term studies instituted a year ago, Mr. Schafer said that production of electric appliances had been disappointing and that former hopes that mid-1946 would see "ample appliance supplies," had been abandoned. Present output at the company's huge west side factories are improving steadily, he said, adding, "this initial allocation for veterans is actually a very small per cent of our potential output, and we expect to take care of our other business as well as supply other veteran housing needs as production improves."

The program, termed "Here Today," to describe a "post-war promise fulfilled," will permit one kitchen ensemble to a builder. "We will not permit a few of the many thousands of builders now working for veterans to procure a great many of this first allocation," he said, adding that wide distribution of the equipment would permit young brides of veterans to see the new equipment in every part of the country. This will aid her in planning for her kitchen as appliance production improves.

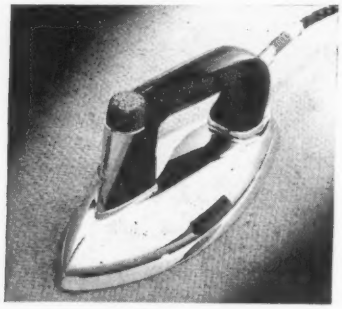
Mr. Schafer said that his company had provided a plan and the electric appliances to equip "a pilot run" Quonset hut installation at an eastern college, aimed at setting a pattern for "modern living in otherwise unfavorable surroundings of war houses." He said that many thousands of the huts are going onto campuses for fall housing of married veterans.

General Mills Iron Gets First Showing

A NEW METHOD of heat control, safety side rests, a Full-Vue four-way sole plate, and a Tru-Heat fabric selector—these are the distinctive features of the streamlined General Mills Tru-Heat iron which made its initial debut at the Housewares Show held in

This war veteran's bride is happy as she sets the table to serve a meal cooked on her apartment-sized automatic electric range (left), according to the Edison General Electric (Hotpoint) Appliance Company which is shipping its first postwar all-electric kitchens to veterans' housing exclusively. Other appliances shown (left to right) are a base cabinet directly behind her which retails for $20; a metal cabinet sink which sells for $85; and a 6 cubic foot refrigerator costing approximately $150. The range price of $107 and the two wall cabinets make a total cost for the war veteran's kitchen less than $425 in any part of the United States.

Atlantic City, N. J., recently. The iron is the first of the new family of General Mills home appliances sponsored by Betty Crocker, recently voted America's most popular home service authority.



Tru-Heat control is a patented principle of heat control that holds the temperature of the sole plate within a few degrees of the desired heat. The iron follows recommendations made by Good Housekeeping Institute, whose authorities reported that postwar irons used on newer types of textile fabrics will have to maintain more accurate temperatures than prewar irons.

According to demonstrators, safety side rests provide greater stability and makes the iron easier to use. In addition, they eliminate need for the old-fashioned square heel, making possible the stroke-saving Full-Vue four-way ironing surface. The taper-rounded back of the Tru-Heat Iron affords smooth operation in all directions. With the tapered edge of the sole plate, the homemaker can iron under buttons with any part of the ironing surface.

A double check control is the Tru-Heat fabric selector dial. It shows exact temperatures as well as fabric settings. High on the front handle, the selector dial is always cool and can be adjusted with a mere flick of thumb or finger.

Arkansas Utilities Elect New Officers

The Arkansas Utilities Association held its annual convention recently in Hot Springs, Ark., with Frank M. Wilkes, president, presiding.

C. L. Leighton, Arkansas division manager of the Southwestern Gas and Electric Company, DeQueen, first vice-president of the association, was elevated to the presidency for the coming year, at the annual election of officers.

Included in the list of speakers on the program was Edwin Vennard, vice-president of the Middle West Service Company, Chicago, who discussed "Electric Industry Economics." Mr. Vennard discussed trends of operating costs and revenues in the past and what electric companies can expect to be the trend in the future.

Other speakers in the business sessions were: L. L. Baxter, Arkansas Western Gas Company, Fayetteville; Charles C. Wine, chairman, Arkansas Public Service Commission; E. Holley Poe, gas consulting engineer, New York; Ashton B. Collins, Reddy Kilowatt Service, New York; Heo S. Jones, Jr., vice-president, Servel, Inc., Evansville, Ind.; Col. Willard F. Rockwell, chairman, Rockwell Manufacturing Company, Pittsburgh; Dr. Allen D. Albert, editor and publicist; and Edgar H. Dixon, president, Electric Power and Light Corporation, New York.

W. C. Teague, chief editorial writer for the Memphis, Tenn., Commercial Appeal, was principal speaker at the banquet.

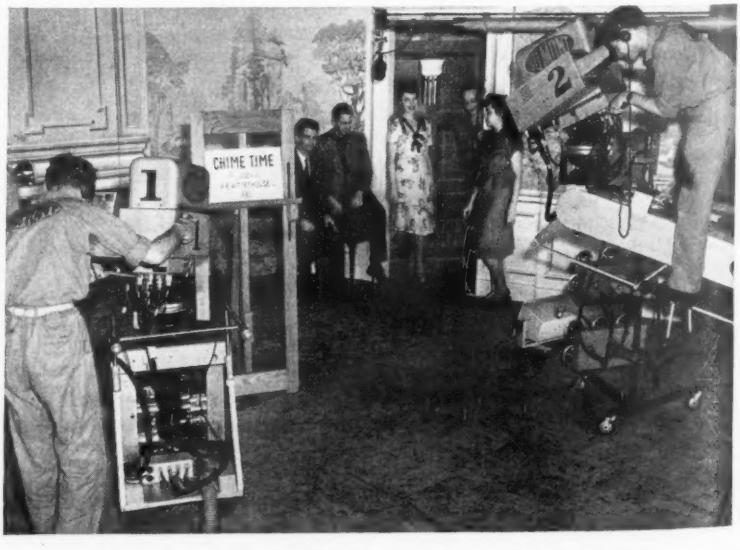
Electrical Manufacturer Sponsors Video Program

Several hundred prospective customers were scheduled to see and hear Rittenhouse chimes right in their own homes during June and July, in a series of presentations designed primarily to provide entertainment. The medium is television, and the sponsor is the A. E. Rittenhouse Company, Inc., of Honeoye Falls, N. Y. It will be the first time that a maker of electric door chimes has experimented in the video field, the company says.

"Chime Time," the new Rittenhouse show, conceived and directed by Art Rivera, television director for Donovan & Thomas Advertising Agency, was to run four consecutive Thursdays, beginning June 6, originating from WABD in the $250,000 Wanamaker Studios, New York. The sponsor is frank to admit that this first plunge into television is experimental, and the results will serve both as a guide for contemplated radio presentations and for future television programs planned for the day when television comes of age.

The company would seriously consider utilizing a full-scale video presentation immediately, if it were possible to televise this type of presentation on a national scale at this time. But 1946 is the year for trial and error in video, and, along with the Chevrolet Motor Company, the U. S. Rubber Company, and other ABC sponsors, Rittenhouse is in television to determine just what type of program best suits its product.

"Chime Time" is built to entertain —to provide fifteen minutes of enjoyment and relaxation for home viewers. To assure this, Rittenhouse has engaged lovely Jean Tighe, form-



Behind the scenes at the Rittenhouse Chime television program.

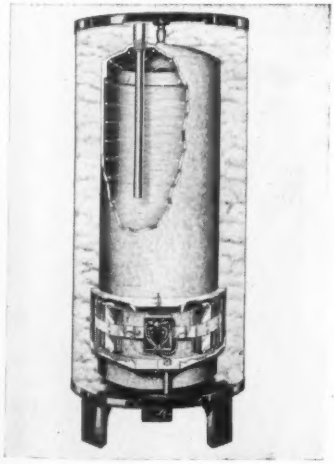
er Guy Lombardo and Earl Carroll "Vanities" vocalist, as its star performer, and has spared no expense in sets and production. It will be fun to see and hear this video attraction In the meantime, viewers will see and hear many of the Rittenhouse chimes, tastefully inserted into the program. But not once will they be cajoled into buying the product.

New Principle Will Prevent Corrosion

CORROSION, which will eat through special alloy hot water tanks in but a few years in acid-charged waters found in some areas of the country, has been definitely conquered by a remarkable new development just announced by the research laboratories of the McGraw Electric Company, of Chicago.

This new invention, known as the Clark "Ionodic" system of corrosion protection, takes advantage of the fact that this type of corrosion is largely electro-chemical in action, and operates by setting up counter-forces to electrolytically neutralize the forces which normally cause the tank to be corroded.

A rod of pure magnesium inserted in the tank forms, with the steel, a galvanic battery, and current produced causes the magnesium to go into solution to protect the steel by a plating action.



Since the hot water and the combination of iron and magnesium cause such a strong current that the magnesium rod would be eaten away in but a few months, it has been found possible to reduce the current by a resistance placed in series between the iron and the magnesium rod. This special feature of the Ionodic system permits a current flow sufficient to give adequate protection, yet retards the rate at which the magnesium is consumed and thereby assures the protection which it gives for a much greater length of time.

The illustration shows a cut-away view of the Clark electric water heater showing how the Ionodic system is installed in the head of the tank. The arrows show the direction of the flow of current from the magnesium anode to protect the tank from corrosion.

Field tests in some of the most corrosive waters of the country have led competent authorities to predict that the Ionodic system will assure a tank life many times as long as could normally be expected.

Hardacre Elected President of IES

GILBERT K. HARDACRE, manager of commercial sales of the Public Service Company, of Northern Illinois, has just been elected president of the Illuminating Engineering Society, according to an announcement by the society. Mr. Hardacre will take office as the 42nd president of the society at the annual convention to be held in Quebec, September 18-20, and will serve for one year.

The Illuminating Engineering Society, a national professional association organized in 1906 for the advancement of the theory and practice of illuminating engineering and the dissemination of knowledge relating thereto, has over 5000 members, and chapters in 32 cities and Canada.

Other officers elected to serve with Mr. Hardacre are: general secretary, Walter Sturrock; treasurer, Charles H. Goddard; vice-president, Lee E. Tayler; directors, Allan E. Parker, and P. M. Rutherford, Jr.

In addition, the following regional vice-presidents were elected for two terms ending September 30, 1948: Leland H. Brown, W. D. Gorman, W.V.C. Foulks, Walter E. Potter, and Dean M. Warren.

DATES AHEAD

National

Northwestern Section, IAEI, Boise Hotel, Boise, Idaho, Sept. 23, 24, 25, 1946. W. L. Gaffney, Secretary, Room 402, City Hall, Tacoma 2, Wash.

Southwestern Section IAEI, Hotel Sacramento, Sacramento, Calif. Sept. 30, Oct. 1 and 2, 1946. H. L. Gerber, Secretary, Room 205, City Hall, San Francisco, Calif.

National Electronics Conference, Inc. Edgewater Beach Hotel, Chicago 14, Illinois. October 3, 4, 5, 1946.

National Electrical Contractors Association. 1946 Annual Meeting. Ritz Carlton Hotel, on the Boardwalk, Atlantic City, New Jersey. Convention, October 15, 16, 17, 1946.

Western Section IAEI, Gibson Hotel, Cincinnati, Ohio. Oct. 21, 22, 23, 1946. F. H. Moore, Secretary, 320 N. Meridian St., Indianapolis 9, Ind.

Eastern Section IAEI, Mark Twain Hotel, Elmira, N. Y. Oct. 28, 29, 30, 1946. F. N. M. Squires, Secretary, 85 John St., New York 7, New York.

National Electrical Manufacturers Association. Annual Meeting, Marlboro-Blenheim and Claridge Hotels, Atlantic City, N. J. Week of October 28, 1946.

All-Industry Refrigeration and Air Conditioning Exposition, Cleveland Auditorium, Cleveland, Ohio. October 29-November 1, 1946.

Electrical Engineering Exposition. 71st Regiment Armory, Park Avenue and 34th Street, New York, N. Y. January 27-31, 1947.

Southern

Southern Section IAEI, George Vanderbilt Hotel, Asheville, N. C. Oct. 14, 15, 16, 1946. A. M. Miller, Secretary, 910 West 30th St., Richmond 24, Va.

Electronic Meeting To Feature Exhibit

PLANS ARE now nearing completion for the Second National Electronics Conference, to be held October 3, 4, and 5 at the Edgewater Beach Hotel in Chicago. Dr. E. U. Condon, director, National Bureau of Standards, Washington, D. C., will be the keynote speaker for the conference.

The technical program will comprise papers on communications, radar, television, industrial electronics, instrumentation and theoretical research. There will be approximately 50 papers presented. Emphasis will be placed on the frontier type of paper, representing the latest in scientific and engineering developments.

Exhibits of electronic equipment, including the latest commercial developments, will be a feature at this year's conference.

Backless Window Pays Its Way

AMONG THE FIRST in the Southwest to introduce the backless window, the Haas Appliance Company of Weslaco, in the Rio Grande Valley of Texas, finds the changeover well worth the cost of $1,300.

Mr. and Mrs. A. G. Haas, in the appliance and contracting business in Weslaco for the past 15 years, say the new open front for their store solves problems of long standing.

Mrs. Haas, who devotes most of her attention to appliances while her husband looks after the contracting and repair departments, says the firm's practice of specializing in commercial refrigeration equipment created for them the need for a big window for display of such merchandise.

However, on the 50-foot front which their store occupies, it was impossible to have an entranceway and a display window of sufficient size to accommodate heavy equipment. Now this commercial equipment, even though placed to the rear of domestic displays inside the store, can be seen from the main street of Weslaco.

"There are other advantages of the open front, compared with disadvantages of the conventional display window," says Mrs. Haas.

"The conventional display window we had was too high above the front elevation of the street and its construction inside made it too high above the floor elevation. As a result, it was difficult to get in and out of the window and inconvenient to properly arrange displays.

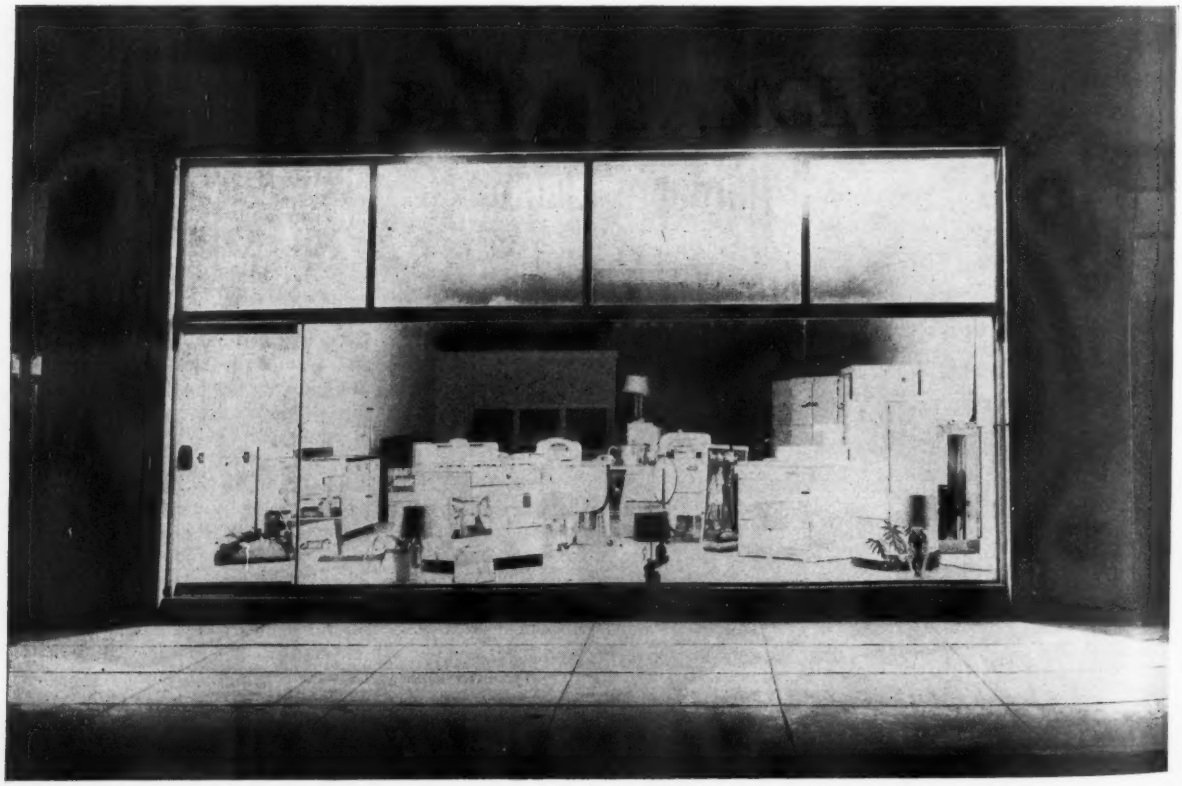
"Furthermore, the promotion material distributed by manufacturers—cardboard set-ups and such pieces—was generally too large to be used effectively in our show window.

"In fact, the old type display window was all right for a few radios, but that was all. And, finally, it was difficult to keep it clean."

Now, with a plate glass front extending from ceiling to floor and a plate glass door with near-invisible hardware, the entire front half of the establishment functions as a show window.

This arrangement, completed last December, has attracted so much attention that Mr. and Mrs. Haas believe their backless window may eventually take the place of one person on the sales force. That possibility, of course, remains to be tested in times of mass availability of merchandise.

"The fact remains," says Mrs. Haas, "that we now have—and have had for some time — more appliances under one roof than we have seen in years. If we didn't have this new front, a great many passersby would not know we had this sample merchandise—they wouldn't have been able to see



much of it through our old style show window.

"Ever since the front was completed, many jobber salesmen, representing lines we don't even handle, have been attracted to our place, come in and visit, admire the window and the new tile floor and want to see how the new front was installed. It must be something of a novelty in this territory.

"Also, because of our new front, we have had so many orders for the merchandise on display that, according to our calculations, an entire year's allocation of our lines of appliances will be required to fill those orders."

Mrs. Haas says the new front simplifies the detail of showmanship in displaying merchandise. She and Mr. Haas propose to have display backgrounds built of plywood. The plywood sheets will be shaped as desired and decorated in blue and white, the colors that blend most harmoniously with the store color scheme, and the colors that have been found to provide the best background for white enamel. The reverse side of the sheets will get a darker finish, since they have found a dark background best for radios, other wood or imitation wood finishes for small appliances, and chrome.

These plywood sheets will be mounted in vertical position on platforms equipped with heavy duty casters.

The platforms will be large enough to accommodate heavy merchandise, such as electric refrigerators. The backgrounds will be constructed in sections of appropriate size so that the necessary number may be rolled into position to provide, in effect, a separate show window if it is desired. Or the backgrounds and their platforms may be moved about the store at will, thus providing completely flexible decorating facilities. And rolling displays will minimize damage to the tile floor.

This store expects to be more exacting with appliance salesmen in the current and future market. In the past, it is pointed out, it has been difficult to get salesmen to tell the exact truth about some appliances, particular reference being made to the five-year guarantee on an electric refrigerator.

Mrs. Haas comments: "Salesmen have been too general in their commitments on that five-year guarantee. They should take pains to point out that the guarantee involves only the refrigerating unit; that it does not include repairs to a door handle, for example.

"However, I can also understand how salesmen, anxious to make the sale, leave the wrong impression about the guarantee. Although I have personally sold hundreds of boxes, I know I have made the same mistake myself."

Mr. and Mrs. Haas have no fear of competition promised by numerous newcomers to the appliance business. They take the position that they have been in business so long that their experience gives them a distinct advantage over newcomers. They add that they can see now where they made many mistakes in the past, and this knowledge will make it possible for them to avoid some of the costly errors that newcomers are almost certain to commit.

Facts on Wells and Farmers Are Needed to Sell Pumps

LIKE BRINGING light into darkness, one of the most satisfactory branches of the electric appliance business is the sale and promotion of pumps and water systems in farm homes.

Like everything else, however, it has its peculiarities, and the salesman must not only know his line of pumps but must know his farmer as well, and the things needed to make the installation perfect.

Cy Carney, owner of the Cy Carney Appliance Company, Fayetteville, Ark., has consistently done a large volume in farm and home water supply systems since 1938 but has now started on his biggest volume of sales.

Some farmers who come in for an electric well pump do not know how deep their wells are. Some customers know how many feet they paid for when the well was drilled but it may not be that deep and it may have filled up some.

The best way, Mr. Carney has found, is to measure the well and the stand of water.

One customer bought a shallow well outfit, according to Mr. Carney, stating that the water was within ten feet of the top and that although the well was about a hundred feet deep that a shallow outfit was all he needed.

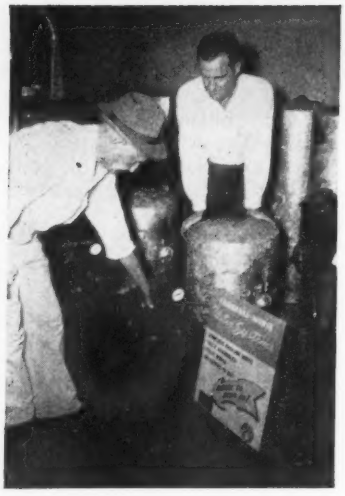
The installation had been installed less than a week when the customer came in and said he would have to trade the shallow well outfit for a deep well outfit. The deal with duly closed and the new pump installed. Two weeks later the well went dry.

This case proves that a well that is hand-pumped may not always supply enough water to keep a house and farm going when a water system is put in.

Most of the wells do have plenty of water, Mr. Carney said, and the problem in selling the unit is to get the right size for depth and for the gallonage needed. Some dairy and chicken farms use outfits that supply a thousand gallons per hour if needed.

The average farm uses between 600 and 700 gallons daily, Mr. Carney

Cy Carney (right) explains an automatic sump pump to a customer.



Successful selling of water pumps requires a thorough knowledge of the pump product itself as well as complete information on the well and the customers water needs.

said, and the private residence often gets along on 300 gallons daily.

One of the big points in selling pumps is the cost of operation, and it can easily be shown to the prospective customer who is using a hand pump on the farm that he is only getting paid about four cents an hour for every hour he pumps by hand. This is much more effective than telling the farmer that the cost of operating an automatic electric pump is four cents an hour.

When the customer finds out that he is pumping water for his stock for four cents an hour when he might be doing something else, he is ready to listen to reason, if he has not been previously sold on an automatic water system.

For the most part, most of the new rural electric customers have just been waiting for the juice to come so they can be relieved of much of the drudgery and slavery of the hand-operated farm.

Ejector Pumps Popular

The new ejector type pumps which have all the working parts above the ground have proved the most popular, according to Mr. Carney. In some cases the pumping unit can be installed in a basement or in a barn although the well is a considerable distance away. This makes it convenient to install the unit under shelter.

The first thing to be done for a pump prospect is to inspect his well and make a layout. Mr. Carney then sells him the pump assembly at the floor price, and the pipe and work are extra and itemized so that he knows exactly what each dollar is buying.

A shallow well system starts at about $94.50 for a 20 to 25-foot outfit and runs up to $297.50 for an outfit pumping from 350 feet. In between there are a dozen sizes at as many different prices, all of them built for certain types of operation.

Most farmers can expand their operations and do more work with the same labor when they go into the automatic water system.

Besides more water supply for larger herds and flocks and more time for profitable work himself, the farmer finds constant sprinkling of gardens and lawns possible in dry weather. Time is saved in the home laundry and in the kitchen, and the ample supply of hot and cold water has a direct bearing on the health of the farm family as well as its comfort.

In all the units that he has sold, Mr. Carney said, the owners would part with almost anything on the farm except the water system.

There is a quick solution when a prospect argues that costs are high: Mr. Carney sometimes takes a customer over to a neighboring farm that he has sold before and they talk costs.

Customers Like "Package" Jobs

Increasing in popularity is the package-type of water system which he has available in sizes up to 800 g.p.h. This is an ejector pump and pressure tank in one assembly ready for plugging in, which eliminates electrical work and piping from pump to tank. All the piping work is from pump to well.

As a matter of course, there are many kinds of pumps and automatic water systems on the market, and the dealer is certain to run up against competition sooner or later.

For that reason, it is always well to be certain that all the advantages of the system are pointed out to the prospect, Mr. Carney said.

As appliances become freer and the market becomes more saturated, the competition among dealers will be greater. Today's order-taking era will pass away.

When the going gets tougher, Mr. Carney said that a deal may sometimes be closed just by pointing out the advantage of the system in the prevention of disastrous fires. The dealer can find out from his local insurance agents whether installation of an automatic water system and a fire hose will reduce the insurance rates. In many cases a substantial reduction can be obtained on certain installations.

In any event some fire equipment, such as hoses and connections, should always be sold with a farm water system.

It is interesting to know in this connection that every day in the week and every fifteen minutes of every day a farm building burns somewhere in the United States, so fire protection for the farmer is not just idle talk.

Actually, it increases the value of the entire farm property, Mr. Carney said, and when a farm has been sold for a large profit, the salesman can almost always point out that the owner modernized the farm with a water system and other electrical appliances. Sometimes actual incidents can be found in the neighborhood where this has happened and where the owner has had the use of the equipment for a considerable time and has then sold out at a profit much more than all the improvements cost.

Mr. Carney's present volume of business is on about a 90 per cent cash basis with about 10 per cent buying on payments. For time customers a down payment of one-third is usually required, with the balance in 12 months. Three or four years ago 90 per cent of the business was credit and 10 per cent was cash.

Water systems usually perform such a great service that there is little or no trouble in collecting payments promptly, according to the experience of Mr. Carney. This is based, of course, on proper selling and credit investigation in the first place.

A secondary source of profitable business is to promote the sale of other electrical appliance to the customers who have bought pump and water systems. When this sale is made and the pump is installed is a good time to enter the customer's name on a card file and list the appliances that he now owns, his credit standing, his ability to buy and pay, and items that he has shown an interest in.

Many times secondary sales will be larger in volume than the first sale.

One thing is sure, Mr. Carney said. "We're on our way back to selling and we're saying goodbye to order-taking. To get the business, we need to be there 'fustus with the mostus' in merchandise and sales argument."

The average life of a household light bulb is 30 months.

A single fluorescent lamp requires 1,000 distinct manufacturing operations and is assembled from 36 separate parts.

Less High-Pressure Selling Planned by Many Dealers

WHILE MANY sales managers are applying the pressure to staffs, preparing for the competitive season ahead, there are some capable sales managers who are carefully selecting untrained men — men who know nothing about high pressure in appliance sales.

One such appliance sales manager interviewed recently reports that over a period of many years, he has gotten at least a fair share of the major appliance business in his city, and much of this business was the result of customer satisfaction that was so substantial it produced thousands of repeat sales. On the other hand, he has had some unsatisfactory experiences with high pressure salesmen of the old school and, consequently, wants no more of them.

"The trouble with the old school, high pressure salesman was that he created excessive illusions and generally oversold the merchandise," reports this sales manager.

"He would often describe a refrigerator, for example, as a dream of mechanical genius and otherwise employ superlatives to such an extent that, without saying so, he led the customer to believe that the refrigerator was actually trouble free. And, too, this type of salesman often sold the prospect something the prospect could not afford. This eventually made trouble for the store.

"For those reasons, I want men who are not overzealous with their sales arguments and men who know nothing about high pressure. We have no place in this store for high pressure salesmanship. I prefer to pick young men who are honest, make a good appearance and have pleasing personalities. Many of the young fellows out of military service will make the kind of salesmen we consider good salesmen."

He pointed out that there is a certain amount of "drive" behind the patter of the experienced salesman, a dexterity in technique that comes from a desire to make the sale by any possible means.

"But I can show the new man, and any other sales manager can show a new man, how that approach will surely result in a 'kick-back'," he added. "We want our salesmen to present the facts about the product in such a way as to create desire in the customer, and let the customer do the buying on the basis of facts."

He said that all his salesmen will be paid a straight salary, irrespective of volume of sales, but that sales ability will figure in the extent of periodic salary increases for salesmen.

To create and maintain customer satisfaction, his company warrants major appliances with a guarantee far more binding than that of the manufacturer. In refrigerators, for illustration, their guarantee is for five years on the complete box, not just the power unit. The only exceptions to this warranty are in the case of certain cleaning fluids. The company warns purchasers that if these cleaning preparations are used, the box finish will not be replaced.

To make good on such guarantees, they maintain a thoroughly competent service department and the slogan is that the service department is as close to the customer as the nearest telephone. Customers using a guarantee item get first call on service and if any shop time is left, "outside" service is accepted.

At present there is a total of 50 years of experience in appliance service in their service shop. During the war there were two men in the shop, but by May of this year the staff had been increased to four. In summer months, two extra service men are on duty for service to fans and cooling systems.

Complete Kitchen Service Featured

PREPARING TO MOVE to a new building before he had opened for business in a preliminary location, was the unique merchandising experience of Tofie Owen, when he established the Owen Electrical Appliance Company, in Gulfport, Miss., recently.

With many uncertainties in building a new building, Mr. Owen opened in a remodeled building not far from the site of his new building so that he could begin selling some merchandise and could start to make contacts with customers.

He found a suitable small building, put in a concrete floor, repainted and redecorated the interior, and set up appliance samples, including an electric kitchen display.

Warehouse facilities were obtained in the rear of his temporary building, and he plans to keep most of his appliance stock in the warehouse and use his store for display purposes.

Mr. Owen said that while his new building was progressing that he would build up his sales force, establish a prospect list, and in general pave the way for the larger operation.

Kitchen merchandise, cabinets, sinks, electric ranges, laundries and washing machines, will be sold on a delivered and installed basis.

By inaugurating his own service and plumbing department it will be unnecessary for a purchaser to call on the services of some other store to get the use of his purchase.

His new refrigeration service department will push service throughout his trade territory on all brands of refrigerators and will not be an adjunct of the store's sales department. Any sales prospects the service department may obtain will be turned over to the store's sales department for action.

Mr. Owen said he thought it would be good business to keep the activities of the two departments separated so as to eliminate the tendency to hesitate to call a refrigeration service department for fear the serviceman would be more salesman than serviceman—or would in general try to sell a new refrigerator rather than repair the old one.

Their policy, he said, would be to repair and overhaul when conditions warranted and to allow the customer to make up his own mind as to when he needed a new one.

Tofie Owen, owner of Owen Appliance Company, Gulfport, Miss., plans an electric kitchen for a customer.

Demonstration Plan To Improve Selling

"EVERY SALESPERSON a Demonstrator" is the theme of an unusual "Never-Lift" demonstration program launched June 1st by the Proctor Electric Company in an effort to help retail dealers train their salesclerks in selling techniques that will equip them to render a more personalized service to their customers and to help them attract neighborhood trade to their stores which will stand them in good stead when the postwar competition between the individual retailer and the large merchandising chain operators becomes keen.

Although this demonstration program applies to a single appliance, the principles involved and the technique described can be applied to a wide range of other items. It should stimulate dealers to train their salespeople to demonstrate, pre-sell, and step up their selling.

Four years is a long time to be away from skilled merchandising practices and many evils have crept into the relationship between dealer and consumer. A demonstration program such as this will provide the necessary preliminary training to enable the dealer to resume his former aggressive merchandising position in his community.

At a time when quality merchandise is scarce and consumers are clamoring for well-known brand merchandise, this demonstration promotion of the Proctor Electric Company is a revolutionary step for it is obvious that, judged on the basis of actual possible sales, there will not be sufficient irons available immediately to warrant the expense of such a campaign if the only profit resulting from it were to be evaluated in terms of dollars and cents.

It is the opinion of Proctor executives, however, that the merchandising benefits to the retailers who participate in this demonstration program will more than repay them for the effort expended since whole-hearted participation will result in a return to prewar selling techniques on the part of the retailer's staff and a resumption on the part of the dealer of his own prewar merchandising skill.

Complete details on the program are contained in a merchandising demonstration kit consisting of window display material, counter card, advertising helps available, a broadside explaining the purpose of the promotion and the national consumer advertising schedule accompanying it, a sample demonstration Never-Lift iron and a booklet, "Proctor Never-Lift Demonstration Procedure," which clearly and concisely tells the retailer and his salespeople how to perform the demonstration.

The demonstration procedure booklet is unique in its simplicity. It is broken down into two columns. One column is headed "Demonstration (You Do This)"; the other column is headed "Explanation (You Say This)." Paragraph by paragraph the demonstration and explanation columns explain each step in the demonstration procedure.

Actual ironing demonstrations in retail stores require a minimum of space. The counter card on a table or counter directing the customer's attention to the iron is all that is necessary. Ideal demonstration props would include a small sleeve ironing board, but lacking this, the table or counter top would serve adequately. The crux of the demonstration is when the customer actually tries the iron herself, so demonstrations should be set up to make it easy for her to do so.

Fan Promotion Helps Sell Other Items

SHORTAGE or no shortage, when spring and summer roll around, the Wilson Appliance Company, 3051 Peachtree Road, Atlanta, Georgia, goes after the exhaust fan trade, and sticks with it until the season ends in September.

J. H. Wilson, manager of the store, goes after this business himself, and blandly explains that he will sell and deliver 1,000 exhaust fans of all sizes and shapes, and eight manufactures, during the five-month period.

The Wilson establishment is not too large for its great volume of business. The display room is roughly 17 feet wide, by about 80 feet in length. So it took a bit of nerve to go all out in exhaust fan display, and yet this is exactly what Mr. Wilson has done.

A 60-inch Chelsea fan is on display in one of the shop's two display windows. Inside the store, Mr. Wilson has displayed his exhaust fans right down the middle of his 17-foot store width. The fans are arranged in graduate sizes so that the customer's eye automatically falls upon the size he had in mind—and the next larger one to it!

The display includes Chelsea, Coolair, Lau, Hunter, Ward Zepher, ILG, Dayton, and Propeller Air, in sizes from 26 to 60 inches.

Mr. Wilson leaves no exhaust fan field unexplored. His fans have been placed in factories, restaurants, apartment houses, printing establishments, and in homes, both large and small.

He backs his annual one-man campaign with advertising in local newspapers and in the telephone directory. Occasionally, he takes a flyer in neighborhood newspapers.

Despite the fact that Wilson has run his fan display right down the middle of a narrow store and devoted 50 per cent of his window space to it, other merchandise does not suffer for want of display space.

The walls are lined with radios of several different makes. Refrigerators get their share of the floor, as do the washers of some seven different manufacturers.

A full line of traffic appliances also meets the eye. There are irons, mixers, toasters, door chimes, percolators, and lighting fixtures, all well displayed.

But it's summer again, and to Wilson that is the time to sell fans. Everything else, for the moment, is beautiful background to a very profitable item of trade, and while he is delighted to sell such items as power lawn mowers, for example, he's busy at this time hustling business for his exhaust fans.

Electric Dealer Resents Manufacturer's Policy

WHAT IS THE VALUE of a dealer's installation and service facilities to the manufacturers and wholesalers of electrical appliances and equipment? This question is raised in a letter received recently from a Louisiana appliance and electrical supply business operator. It is a copy of the dealer's answer to an electrical manufacturer who wrote him inquiring why he was not stocking the manufacturer's products. The letter follows:

"Gentlemen:

"I have made a study of the retail stores in this vicinity and have come to the following conclusion:

"Due to the preference shown furniture and hardware stores by distributors of electrical supplies and appliances with no regard as to the installation and service ability of these stores, I have come to the conclusion that an appliance and electrical supply business cannot prosper nor even survive on these two items alone.

"With this disregard by the distributor as to a dealer's ability to install and maintain merchandise after it is sold, there seems nothing left but competitive selling.

"Therefore, I have decided to stock only competitive merchandise so that I have only to sell competitively and will not have the expense of maintaining a service department.

"To compensate for this loss on installation and service I intend to stock other items that will compete with the furniture and hardware stores."

● Why? Because Security does the job better. It's highly dielectric, non-ravelling, straight-tearing, highly insulating and has strong adhesion.

Serving Through Science

UNITED STATES RUBBER COMPANY

1230 AVENUE OF THE AMERICAS • ROCKEFELLER CENTER • NEW YORK 20, NEW YORK

Lighting Sets the Selling Stage

By W. A. Feuillan, Jr.*

Looking North in the Crystal Room, circular penetrations (300 watts cold cathode) and recessed, louvered incandescent fixtures, fitted with reflector lamps (300 watts), for down and directional lighting, are seen. The high intensities on display cases are noteworthy.

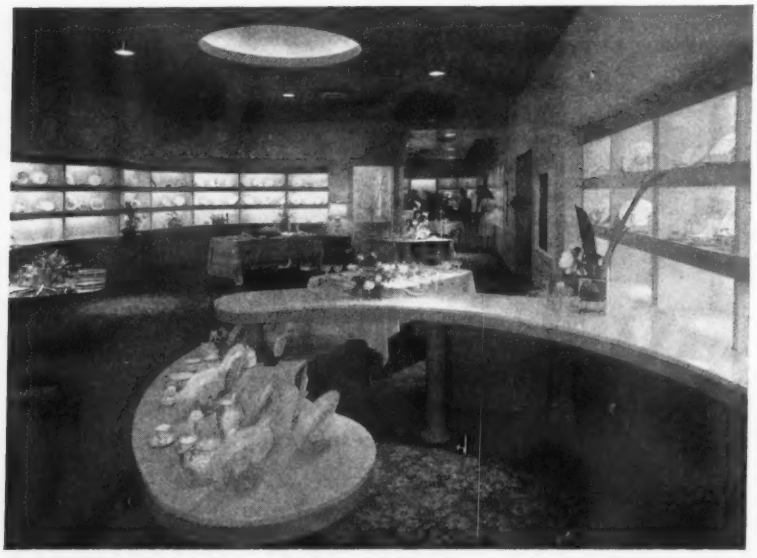
THE NEW, recently opened china, glassware, and silver galleries of Adler's, New Orleans' largest retail jewelers (since 1898) are good theatre! All the skill and subtlety of the architect, the artist-decorator, and the illuminating engineer were combined to present precious wares, decorative in themselves, with drama, glamour, and buy-appeal.

The three rooms flow, one into the other, and are expertly integrated to control or direct traffic, depending on point of entry, number of customers in a given room, etc.

The Crystal Room measures 22 feet wide by 28 feet long, is finished in a gray-green with interiors of display sections in grayed rose. The ceiling is dove gray. The lighting is from recessed, louvered spots (300 watts incandescent), and circular penetrations (approximately 300 watts cold cathode) having reflecting areas in pale rose. The average reading is 30 foot-candles. Continuous lines of fluorescent, back of the frieze, near the ceiling, above and below glass shelves make the glassware on display ethereal, gem-like, feast for the eyes!

The China Room, separated from the Crystal Room by gargantuan kidney tables, which sometime tie-in with one room and sometime with the other, depending on the merchandise shown on them, measures 28x28 feet. Its decor is the same as the Crystal Room with the same overhead lighting. The fluorescent lighting for the display cases was handled like stage lighting, all focused on the merchandise, eliminating shadows, silhouettes, etc. The main entrance to this room is in silver gray with two soot black shadow boxes, framed in pickled mahogany, for the display of elegancies and selected giftwares.

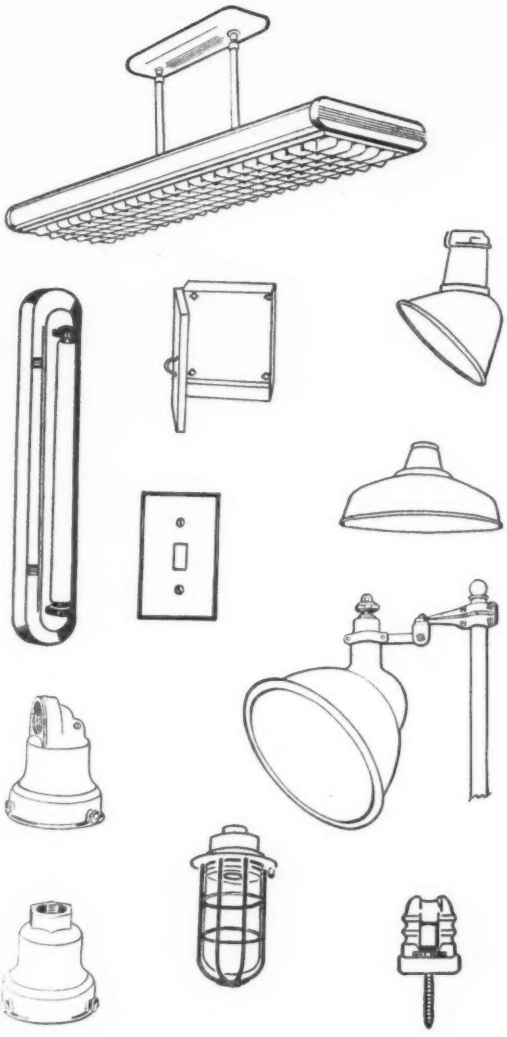
The Silver Room is wedge-shaped: 16 feet on one end, 22 on the other, by 39 feet in length. The tapered effect was achieved by stepping back the display cases and silver stock cabinets every seven feet in length, to provide space for service, stock and store rooms. All furniture and woodwork is in pickled mahogany, with



Looking South over the functional display tables in the China Room, one sees the stage-like and efficiently-lighted English and French china service showings. The main entrance is flanked by shadow boxes, at right. The Silver Room is in the rear.

*Mr. Feuillan is secretary of the Lighting Fixture & Electric Supply Co., Inc., New Orleans, La., and Southern Region vice-president of the Illuminating Engineering Society.

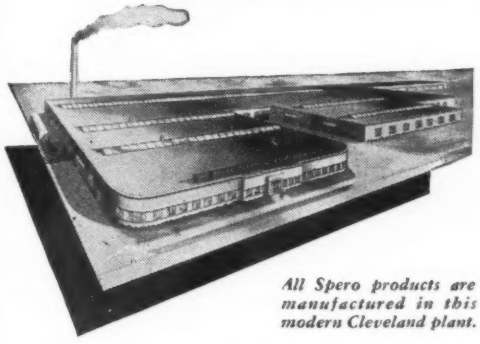
SPERO



Reconversion at The Spero Plant is now completed, and full-scale production of our regular peacetime lines has been resumed.

Spero Products are distributed only through verified wholesalers.

...5 LINES of Products from one dependable source



All Spero products are manufactured in this modern Cleveland plant.

Fluorescent Luminaires

for commercial, industrial and residential installation. Of special interest is the new Spero MSB (minimum surface brightness) glass-shielded line, bringing new architectural beauty to decorative lighting.

Reflectors

Shallow and dome type, one-piece seamless construction—keyless and pull chain styles. Wide variety of types and sizes for 75 to 750 W lamps.

Floodlights

Open types and outdoor weatherproof types fitted with prismatic lens. Finished in "Duralum". Sizes for lamps from 150 to 1500 W. Also Yard Lights and Cargo Lights.

Vaporproof Units

Pendant or bracket types—available for 3" and 4" outlet box mounting, also "X" types. With or without wire guard. Reflectors available. Lamp sizes 50 to 300 W.

Construction Equipment

Outlet boxes, Switch Plates, Zinc Diecast Sockets, Porcelain Wire-holders (lag or machine screw type) and Multiple-Point House Brackets. Made of quality materials to Spero's high design standards.

Write for complete information

THE SPERO ELECTRIC CORPORATION
18222 LANKEN AVE. ★ CLEVELAND, OHIO

Specially designed silver service tables are illuminated from above by recessed louvered spots (300 watts), which provide 75-90 foot-candles. Display sections in wall cabinets are equipped with 30-watt fluorescent bulbs, color corrected.

frieze on one side in gray and the other in mauve. All cabinet interiors are in mauve alternating with grayed blue. The lighting is similar to that in the Crystal and China Rooms with recessed spots carefully located to illuminate display and service tables with intensities of 75 to 90 foot-candles.

This room has a suspended or floating ceiling, designed for the future installation of slimline lamps, when available, as decoration and not intended to add appreciably to the lighting intensity.

Photographs were made prior to the formal opening of these rooms for business and also on the occasion of the annual flower show of the Garden League of New Orleans, whose members were guests of Adler's for the event. The dining tables shown were set and decorated as entries in the flower show. The usual complement of furniture in the Crystal and China Rooms are display and service tables of modern design with light, functional arm chairs covered in Kelly green chenille. Side chairs in the Silver Room match the woodwork and furniture and are covered in natural pigskin.

The decorative ensemble is in keeping with the lush and luxurious merchandise offered in this jewel-box series of rooms, whose lighting is as "good to look at" as it is "to see by" . . . the real criteria of a modern "engineered illumination" installation.

The architect was August Perez; the consulting electrical engineer, Louis N. Goodman; the decorator, Marc Anthony; the electrical contractor, Arthur J. Bech, all of New Orleans.

Fluorescent Lamps Propagate Cuttings

USING ordinary 30- and 40-watt fluorescent lamps as the source of light, home gardeners who do not have access to greenhouses can now propagate cuttings and seedlings in their own basements or storage rooms in an enclosed unit developed by the U. S. Department of Agriculture.

A unit six feet long, three feet high and three feet wide for use with a fixture containing two 40-watt fluorescent tubes is suggested. "Fluorescent strips" as the source of light may be used instead of the two 40-watt tubes. If the unit is to be carried through doors or houses, the width may be two feet with only one tube. Two doors hinged at the top are provided for the front of the unit. Ventilation is unnecessary. Construction of waterproof composition board is suggested, especially if insulation is important.

The unit, as designed and tested at the Plant Introduction Garden, Glenn Dale, Md., has (1) a heated or warm air space below, (2) the rooting medium in a flat or trays with drainage, (3) fluorescent lamps and reflecting surface, and (4) an air space above the lamps to prevent excessive heating. Relatively little watering of the rooting medium is necessary but generous watering has not proved harmful. Temperatures of from 72 to 75 degrees are ideal for many cuttings.

The tubes should be from 12 to 15 inches above the rooting medium. Although quicker rooting may be obtained under 16-hour light periods with some species, continuous illumination is simple and generally satisfactory. When burned continuously or nearly so, the fluorescent lamps should last 5000 to 6000 hours.

Orange-Red Light Best

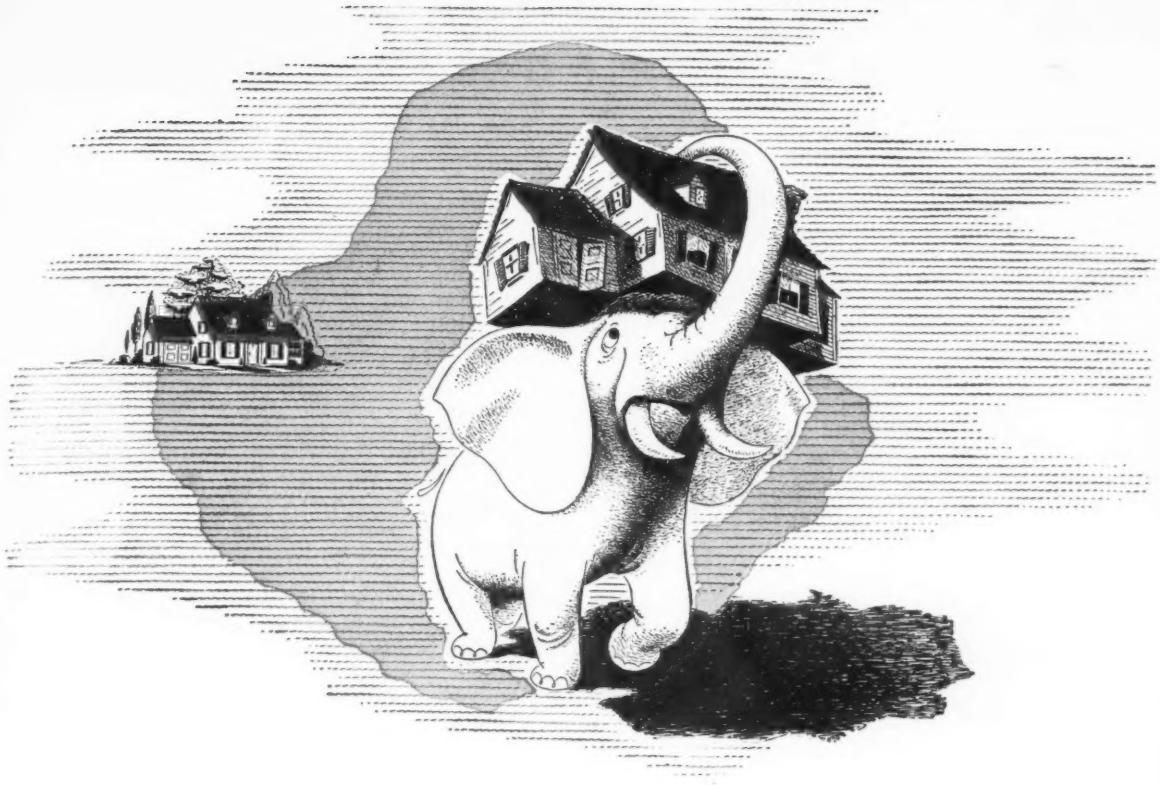
A light rich in orange-red rays produces the most rapid and heavy rooting of cuttings. Either a 3500-degree white or a pink fluorescent tube is therefore preferable to a daylight quality tube, though reasonably good rootings may be expected with the latter. A light richer in the blue-violet rays is recommended for use in growing seedlings, as the light most favorable for cuttings produces a rapid but leggy, spindly growth of seedlings.

If the unit is in a basement or room in which the temperature fluctuates little and is suitable for the species of plants used, heating units are not needed. If a heating unit is needed under the rooting medium, it can be controlled by a chicken brooder thermostat or a soil-heating thermostat used for hotbeds.

Small sealed 75 to 100 watt heating units with bases fitting standard lamp sockets should be adequate in most cases. Old-fashioned carbon filament lamps or two tungsten filament bulbs connected in series also may be used. Special soil heating cables also are available and may be placed at the bottom of the rooting medium. The socket for the heater is mounted on one of the sidewalls of the unit, below the rooting medium, with a small metal shield above it to prevent the entrance of drainage water.

Vermiculite, a mica-bearing material available at most building supply dealers, is recommended as the medium in which to grow cuttings. The grade sold as house insulation is satisfactory, but some of the coarser particles should be screened out. Special horticultural grades of this material will be available shortly.

In growing plants from seed the investigators have also obtained good results with vermiculite as the medium, but they recommend the use of spaghum moss in which germination of seed is more certain when directions recommended in a recent Department of Agriculture leaflet (Leaflet 243, Spaghum Moss for Seed Germination) on the subject are followed.



white colonial, 1946 white elephant, 1956

don't let today's dream home become tomorrow's disappointment . . .

because of inadequate wiring

Right now, your job as an electrical contractor bears an important new responsibility. With costs of new homes limited, it's up to you to keep a "skimpy" electrical system from limiting their livability and future value. At the same time, you'll be protecting your own income and future reputation.

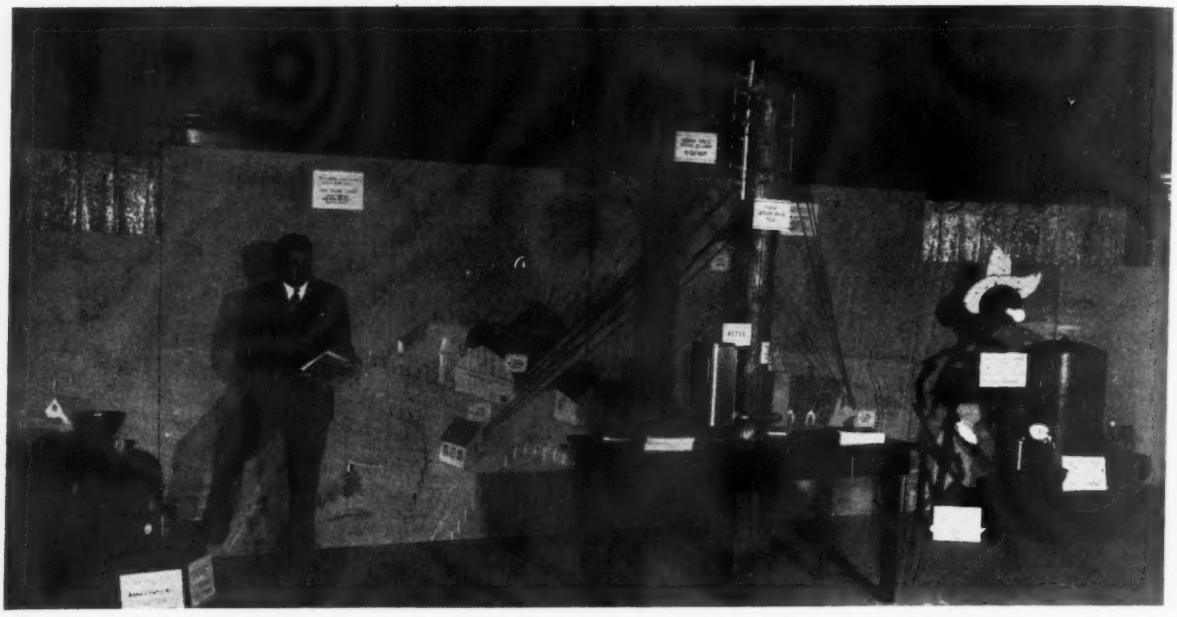
Today, a small, unpretentious house requires more *thorough electrical planning* than any house of the same type ever required before. It will be bought and occupied by people who are counting on *electrical conveniences* to make up what they lack in space and elaborate architecture. They'll want plenty of outlets, wired to handle everything from toasters to television. They'll want lighting to make small rooms look spacious.

By working with local builders and architects now, you can verify the fact which General Electric has already emphasized: *that adequate wiring adds more value per dollar to a home than any alternative use of the same few extra dollars.*

To aid you, G.E. has prepared hard-hitting booklets for homebuilders. You can use them to stave off electrical "skimping" . . . to sell the combination of *better wiring materials* and a better wiring job. Just write for *Adequate Wiring Help* to Section AW1-716, Appliance and Merchandise Department, General Electric Company, Bridgeport, Connecticut.

GENERAL ELECTRIC

ADEQUATE WIRING PROMOTION

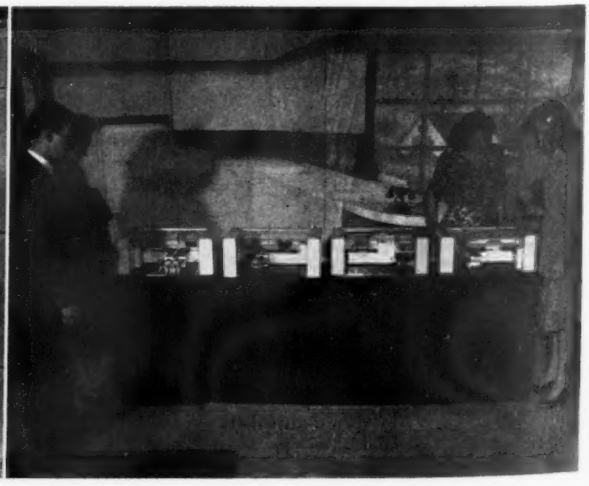


Wiring Featured in Exposition

COOPERATING with electrical contractors, appliance and equipment dealers in its territory, the Public Service Company of Oklahoma, Tulsa, Okla., during the months of April, May, June and the first week in July, was carrying the message of electrical service into 25 cities and towns of Oklahoma.

Called by the company, "The Reddy Kilowatt Greater Exposition," the show and exhibit, combining educational and demonstration features, took its first bow in the lobby of the Public Service Company of Oklahoma Building, in Tulsa, and attracted 8,500 people during the opening week. The company and coop-

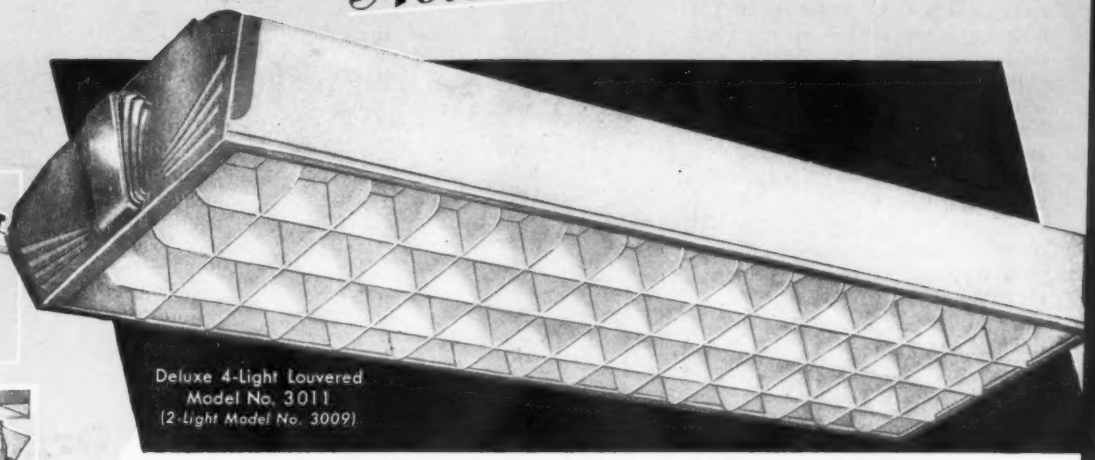
Thousands of Oklahoma light and power customers had the opportunity in the last two months to see "The Reddy Kilowatt Greater Exposition" produced by the Public Service Co. of Okla. Pictures on this page show a part of the exhibit. At top, the farm electrification exhibit. At left, below, an adequate wiring display featuring right and wrong ways of wiring. At right, the display of miniature electrical kitchens.



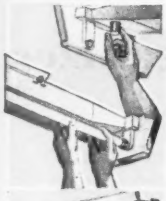
New DESIGNS!

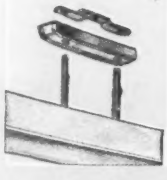
New FEATURES!

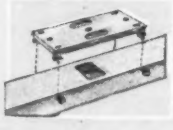
New LIGHTING EFFICIENCY!



Deluxe 4-Light Louvered
Model No. 3011
(2-Light Model No. 3009)







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- Luminous End Plates
- Instant Start
- Surface or Suspension Mounting
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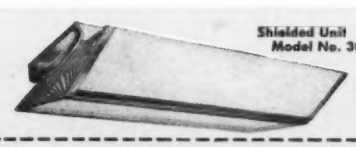
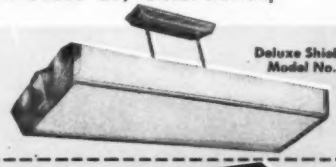


Shielded Unit
Model No. 3004



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Portable Floor and Table Lamps • Bed Lamps • Ultraviolet and Inf
Health Lamps • Residential Lighting Specialties . . . Rad-i-Air G
cidal Units (made by Tru-Air Ultraviolet Products Co., Los Ang

erating electrical contractors and dealers expect to attract 15,000 people to the show in the other towns, or to reach directly approximately 40 per cent of the population in the areas concerned, G. A. Coleman, Tulsa, director of public affairs of the company said.

Before or after the exposition reaches a town, the electrical contractors and all electrical equipment and appliance dealers are invited to attend a meeting in which they plan what appliances will be exhibited at the show. The purpose of this meeting is to obtain as complete lines of each type of equipment and appliances as possible for display on the floor during the show. By this means duplications are being avoided and as large a variety of merchandise as is possible under existing scarcities are placed on exhibition. The meetings also secure better cooperation among the dealers.

By reason of a state law in Oklahoma, public utility companies cannot sell equipment and appliances which are manufactured for connection to their services, but they can lend space on their display floors for display of such merchandise. Also there is nothing to prevent dealers, who wish, from taking orders for their merchandise while it is on display at the exposition. The Public Service Company, however, does no selling of such merchandise.

Exhibits at each of the shows include: facilities for service; generation, transmission, and distribution pictures and equipment; various types of safety exhibits; "Cost of service" and "Taxes paid" booths; historical displays; home lighting, home service, and commercial lighting displays; customer service and industrial development; model electrical kitchens, substituting small models where the regular equipment cannot be obtained; farm development; air conditioning exhibits; and displays of those appliances which dealers are able to furnish. A moving picture called "Reddy Made Magic" and other pictures are also shown.

Safe handling of electricity, low cost of the service, and the thousands of tasks which electricity performs both in the home and in industry are visually impressed upon visitors to the exposition, through equipment devices, models and exhibits which are interesting and of real educational value.

Dealers anticipate considerable value from the exposition through the "pre-selling" of many prospects for electrical wiring and appliances.

Dallas Wiring Group Organizes

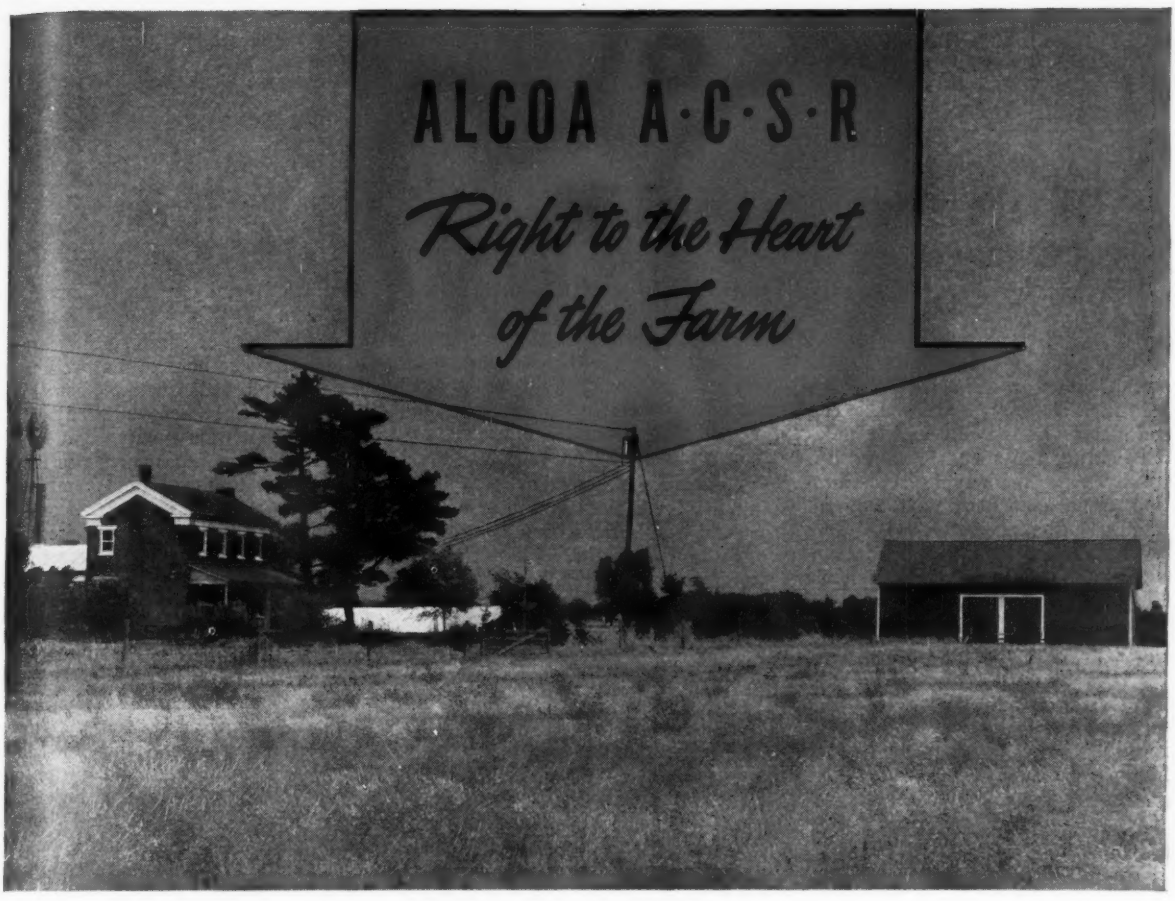
AFTER several months of coordinated effort, the Dallas Adequate Wiring Program was launched officially at a meeting which brought together the leading contractors, wiring wholesalers, and light and power company executives for the kick-off.

The accompanying pictures were made in the auditorium of the Dallas Power and Light Company after the power company had been host at dinner.

J. L. McClure, as chairman of the

(*Continued on page 74*)

The Dallas Adequate Wiring Committee is shown here with some of their display material. Left to right: Porter Lindsley, Jr., Standard Electric Manufacturing Co., Dallas; M. D. Darrah, City of Dallas; J. L. McClure, McClure Electric Co., chairman of committee; Jack Smith, City of University Park; H. M. Walne, Dallas Power and Light Company, secretary of committee; R. L. Snodgrass, General Electric Company; Houston Watson, Westinghouse Electric Supply Co.; Percy Rawlinson, Beckett Electric Co.; T. M. Schrock, Schrock Electric Co.; J. F. Schwegmann, Dallas Power and Light Co. Not in picture, R. B. Allen, town of Highland Park, and P. N. Vinther, consulting engineer.



For every foot of line from the power plant to the pole in the farmer's yard, there's a suitable Alcoa conductor, Aluminum Cable Steel Reinforced — offering ample current carrying capacity to allow for future growth of load — having the high strength which permits long spans, lower cost construction.

Over a million miles of Alcoa A.C.S.R. —35 years' experience—have proved the dependability of these conductors. Alcoa engineering standards for line construction are based on the wealth of experience gained throughout these years.

For assistance in planning new lines or extending old ones, get in touch with the nearby Alcoa office. Or write ALUMINUM COMPANY OF AMERICA, 2164 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA A-C-S-R
ALUMINUM CABLE STEEL REINFORCED

Modernization of Dairy Wiring

THE VALUE of the electrical contractor's service to his community is never so well emphasized as when he is called upon to restore service promptly after a disastrous fire in an industrial plant or institution. The contractor who is well versed in modern lighting and adequate wiring can usually point the way to modernization that actually steps up the overall efficiency of the plant.

The matter of restoring service immediately, and maintaining it while the reconstruction work proceeds, is one which often requires the greatest ingenuity and initiative. An interesting example is to be found in the case of a large Miami dairy plant which lost much of its equipment and machinery in a fire that put its entire electrical system out of operation.

Called in while the fire was still burning, Fred Stewart, of Stewart Electric Company, Miami, had his men on the job restoring power before the Fire Department had left the premises.

The dairy's operations include, besides the processing of fluid milk and milk products, the maintenance of refrigeration, in its "cold rooms," for a very sizable quantity of "perishables." Since the refrigerating equipment and its motors were out of commission, the quick removal of the cold rooms' contents was a "first."

To do this, however, it would be necessary to restore current to the motor-operated conveyors, which serve the refrigerators. These conveyors looked—and, later, proved to be—usable.

Since the plant's transformer bank, consisting of three units totaling 350 kva, and located in a vault next to the engine room, was rendered useless during the earlier phases of the fire, Mr. Stewart had his electricians bypass the damaged transformers by tapping the utility's secondary distribution lines, near the plant, and brought in service at low voltage.

By 9 P. M.—less than six hours from the start of the job—"emergency" lights were on, and the conveyors were moving the refrigerators' contents to trucks waiting at the loading docks. Thus a considerable percentage of the perishable foods, stored in the cold rooms, was saved by the prompt repowering of the conveyors.

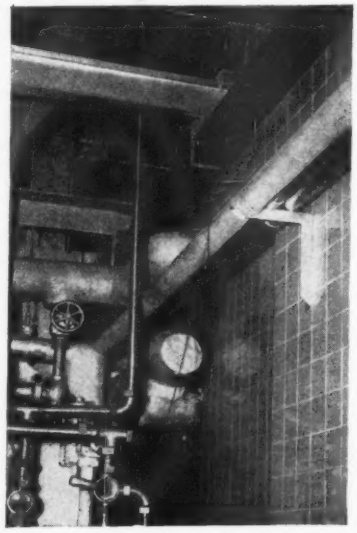
The next step in the electrical problem was to provide light and power for what "skeleton" plant functioning would be possible, under the circumstances.

Consequently, on the day following the fire, Stewart installed a temporary transformer bank, consisting of three 75-kva units. As the destroyed transformers were the dairy's property, these replacements were obtained, on a rental basis, from the utility. Mounted upon a wooden platform, set on the ground, just outside the remains of the engine room, the temporary installation was protected by a barricade of salvage lumber and other materials. The transformers were connected to the utility's primary, which terminated nearby in an underground pull box.

At the time of the fire, the dairy's operations were housed in a two-story, concrete-and-steel structure, about 150 feet by 175 feet (since enlarged) with its long dimension running north and south. Among the major casualties, in addition to the engine room with its refrigerating and power control equipment, was the entire second floor, where the milk processing apparatus was situated. Here, a large part of the roof had collapsed.

However, some plant machinery, such as that for ice cream making, suffered less damage. And the heavy concrete slab of the second-story flooring would serve as a temporary roof over the first floor. Therefore, the strategy plan for the initial phases of plant rehabilitation included the reconditioning of less-damaged equipment and its removal to those parts of the structure which had suffered least.

For instance, the ice cream making machinery was shifted from its position, at the north end of the building, to a room, near the center, which was both available and suitable. In the space vacated, the milk processing equipment was set up, as quickly as it could be repaired or new apparatus purchased. Obviously, during this period of plant restoration,



Metal wireways were used to advantage for distribution lines and for mounting remote control magnetic starters in sections of the plant where moisture conditions were bad. Typical installation of wireway is shown above (upper right hand corner of picture). At right, Fred H. Stewart, of Stewart Electric Co., Miami, points to a pressure switch which automatically shuts off compressors and sounds siren if an ammonia line should break.

Hubbard Insulator Bolts

SINGLE AND DOUBLE UPSET TYPES HOT GALVANIZED

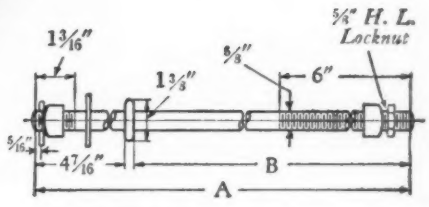
*SINGLE UPSET TYPE

Stock No.	DIMENSIONS—INCHES A	B	Thread Dia.	For Use With Insulator No. (Not Included)	Approx. Shipping Wt. Lbs., 100 Pcs.
8740	11¾	7	⅝	455 or 355	170
8741	12¾	8	⅝	455 or 355	180
8741½	13¾	9	⅝	455 or 355	189
8742	14¾	10	⅝	455 or 355	197

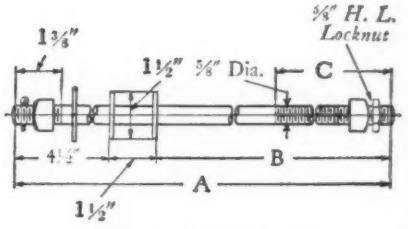
*DOUBLE UPSET TYPE

Stock No.	DIMENSIONS—INCHES A	B	C	Thread Dia.	For Use With Insulator No. (Not Included)	Approx. Shipping Wt. Lbs., 100 Pcs.
8824	13	7	3½	⅝	455 or 355	179
8826	14	8	4½	⅝	455 or 355	188
8828	15	9	5½	⅝	455 or 355	196
8830	16	10	5½	⅝	455 or 355	204

*All sizes listed are Rural Standards



Single Upset Type



Double Upset Type

Other types and sizes of Single and Double Upset Bolts can be supplied on special order but are not carried in stock.

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Sixty louvre-type fluorescent fixtures supply 50 foot-candles of illumination at the working level in the Miami dairy office.

Stewart's job was to provide light and powering for the various mechanical installations, as they were readied.

Of course, all the electrical work for such purposes had to be done on a makeshift basis, because it would have to be removed, later, when the permanent installations were made. Only a limited quantity of distribution panels were available by purchase or by salvage from the building, itself. For the most part, centers of distribution had to be improvised by use of safety switches and porcelain fuse blocks.

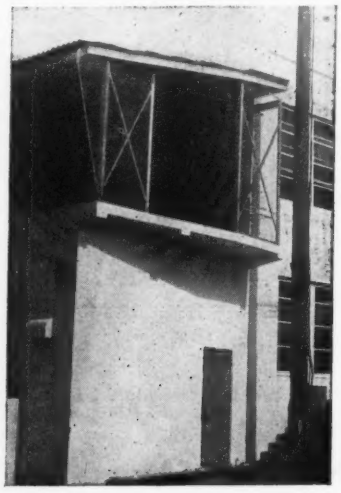
Light and power wiring had to be carried from point to point in the building, as "open work," by means of porcelain strain insulators. Conduit was employed only for current connection to the machines, themselves. Much of this temporary wiring had to be torn down and relocated, as machinery was moved from one position to another. And, finally, the temporary wiring had to be removed to make way for permanent electrical installations.

One "emergency" installation, of which Stewart is justifiably proud, is his rapid restoration of power to the refrigerating equipment. He had two of the smaller compressors operating, under a wood-and-tarpaper roof, in little more than three weeks after the fire. For this purpose, he had to devise a temporary control panel, largely from salvage materials.

On the building itself the dairy did a thorough job of reconstruction, plus an addition, approximately 75 feet by 150 feet, at the southern end of the rebuilt structure. For the reconstructed and the new portions of the building, Stewart Electric, working with the dairy company's engineers and Harold H. Fuselman, local consulting engineer, mapped out a completely modernized electrical system. Incidentally, parts of the destroyed installation -- the lighting system, for instance—were at least 20 years old.

In the interest of space conservation, the new transformer and main switch installations were located in a two-story, concrete-and-steel structure, 10 feet by 12 feet, with 12 foot ceilings, at the rear of and adjoining the engine room. The ground floor of this structure serves as a switchgear room, while the eight inch concrete slab which forms its roof is used as a transformer "deck."

The transformer installation consists of six outdoor, oil type units, totaling some 600 kva. In order to secure equable distribution of their weight, four 8-inch steel I-beams, two under each bank, were cast into the slab when the concrete was poured. A roofing of corrugated sheet metal over the transformers supplies weather protection.

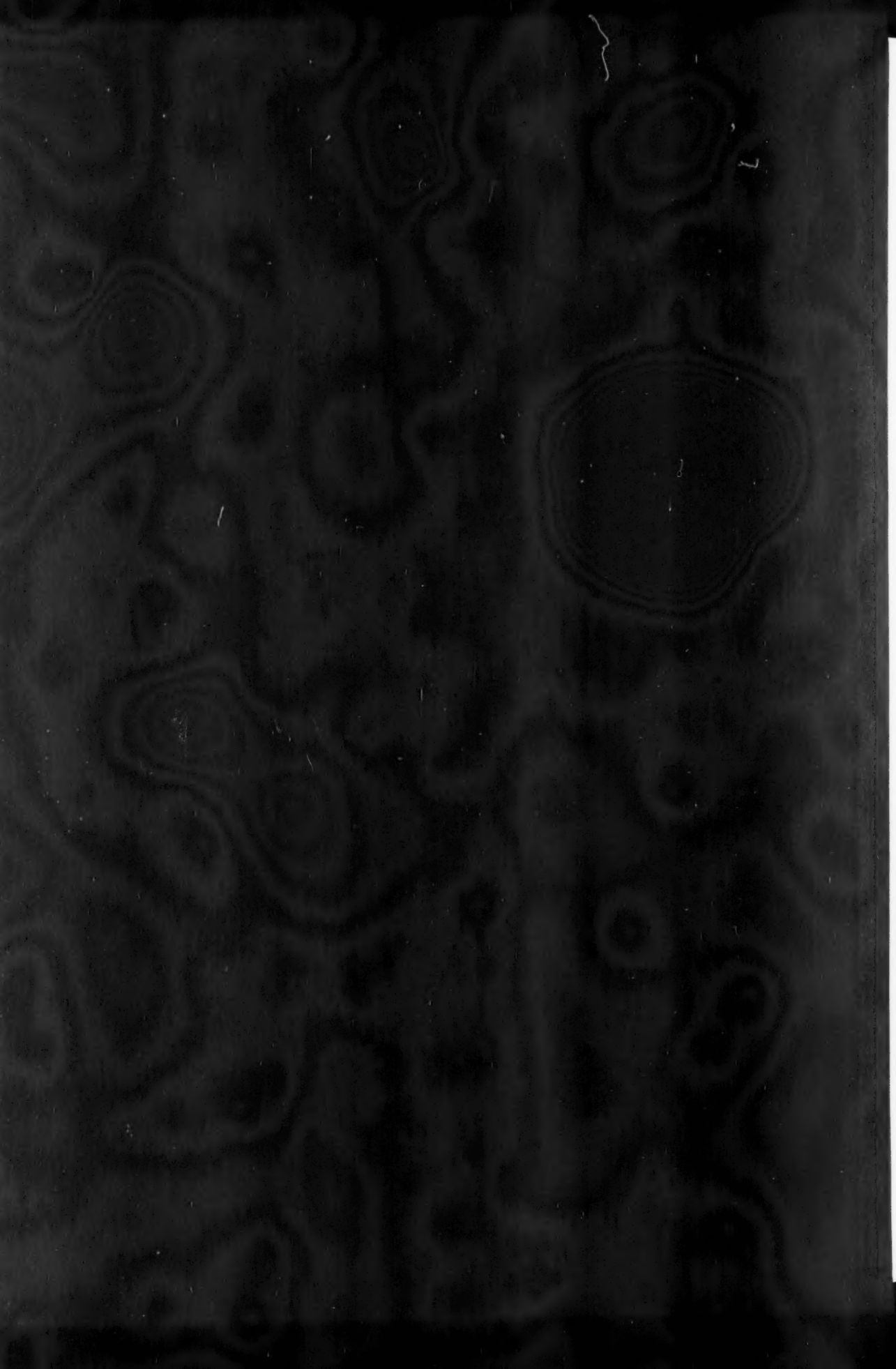


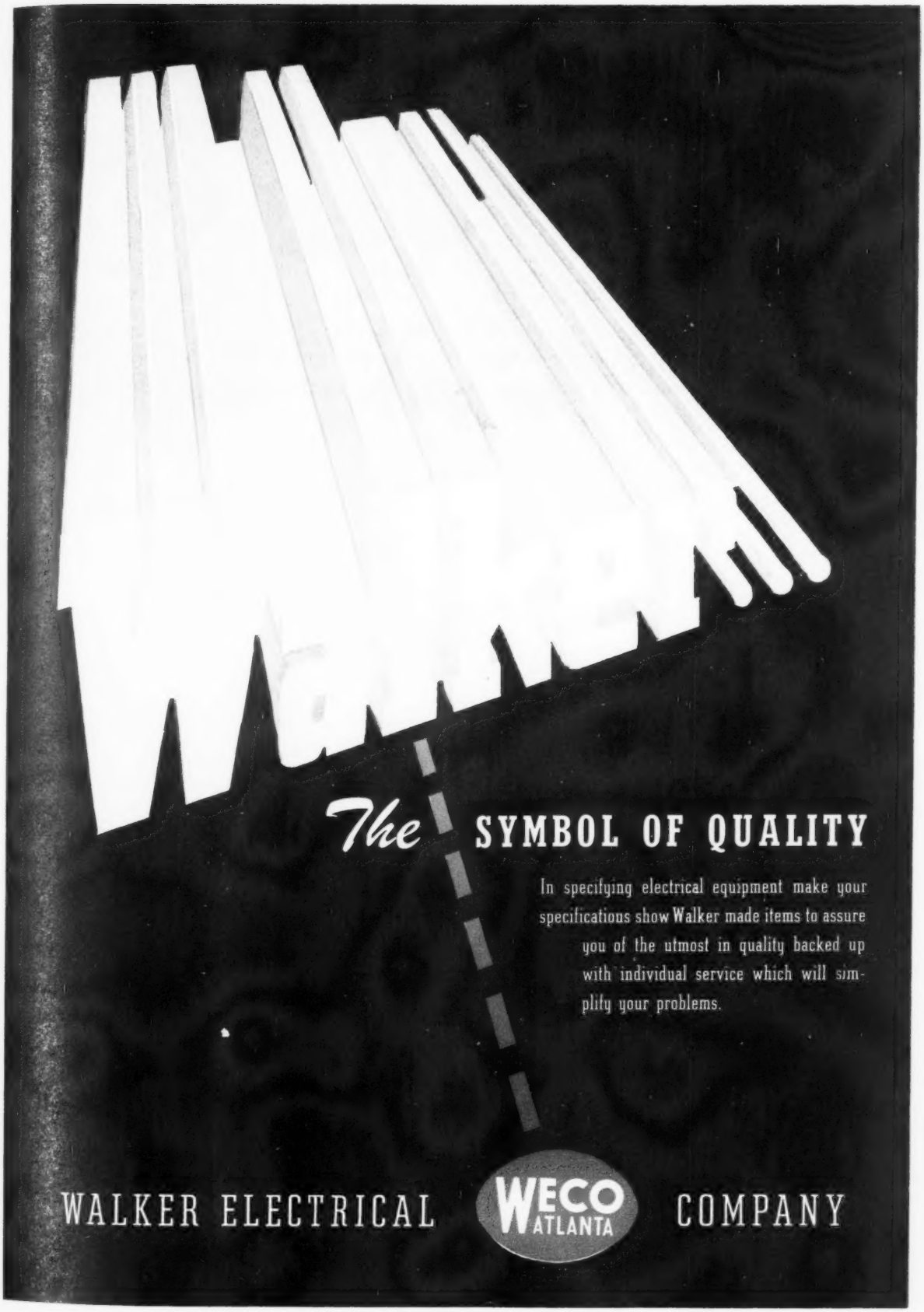
The utility's service to the dairy is 60 cycle, 3-phase, 4-wire, Delta-connected, 2300/4160 volt. This is stepped down for plant use to 120/240 volt. The utility's primary comes from a pole to three pellet-type, lightning arresters, rack-mounted on the south end of the building. These arresters serve as an added protection, since the utility safeguards its primary service with an arrester installation of its own.

From the dairy's arresters, there is a cable run of 75 feet to the transformer station. For this purpose, three inch conduit and 5,000 volt, No. 4 VCLC cable were used. At the transformer station, the current goes to six 5,000 volt, oil fuse cutouts. The fuses for the latter interrupt in an oil bath, practically eliminating arc. Wall-mounted, between the two transformer banks, these cutouts gang-operate in groups of three and serve as individual disconnects for each bank.

One advantage stemming from this two-bank transformer arrangement and from the separate bussing and fusing of each group is flexibility. If a transformer in either bank should fail to

Above the dairy plant engineer demonstrates the use of the dead-front pull-out type electrical distribution panels used in modernizing the Miami dairy's electrical installation. At left is transformer room, housing dual transformer banks, located on the concrete roof of the switchgear room.

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function for any reason, the other bank still could maintain a limited plant load, including all refrigeration, milk processing and needed lights. Obviously, the maintenance of efficient refrigeration is a "must" in an operation of this kind.

Coming from the secondary side of each transformer bank, tubular-type bus bars pass, by way of sealed ports in the concrete slab, into the switchgear room below. The insulating material used for the ports consists of Formica plates. In the switchgear room, the busses travel along the ceiling to a point directly over the main switchboard and drop down to the latter, which is in the center of the room.

The main switchboard is of dead-front, sectional type and is equipped with air circuit breakers designed to provide split-cycle interruption. The board's six sections conform to the divisions of plant load, plus light distribution.

The main distribution panel is located at the north side of the switchgear room and only a few feet from the main switchboard. The distribution setup consists of eight lighting and five power panels. The lighting sections are thermal, time-lag type, and feed to local centers in the general and private offices, the milk processing, bottling, and ice cream making departments, the warehouse and the engine room and the loading platforms.

The power panels are unit, pull-out type. These distribute to control points in the engine and boiler rooms and the processing, bottling, and ice cream departments. The panel installation for the milk processing room should serve to show how distribution to load centers is handled.

The setup, here, consists of three sections, controlling the powering of various processing machines. The sections are made up of 23, 16 and 13 units, respectively, and include five "spares" to provide for the powering of additional equipment if any should be installed. This arrangement allows maximum flexibility for serving the individual machines. Each panel unit has a hinged door which carries both switch and fuse. When the door is opened, the circuit is broken, thus supplying a valuable safety factor.

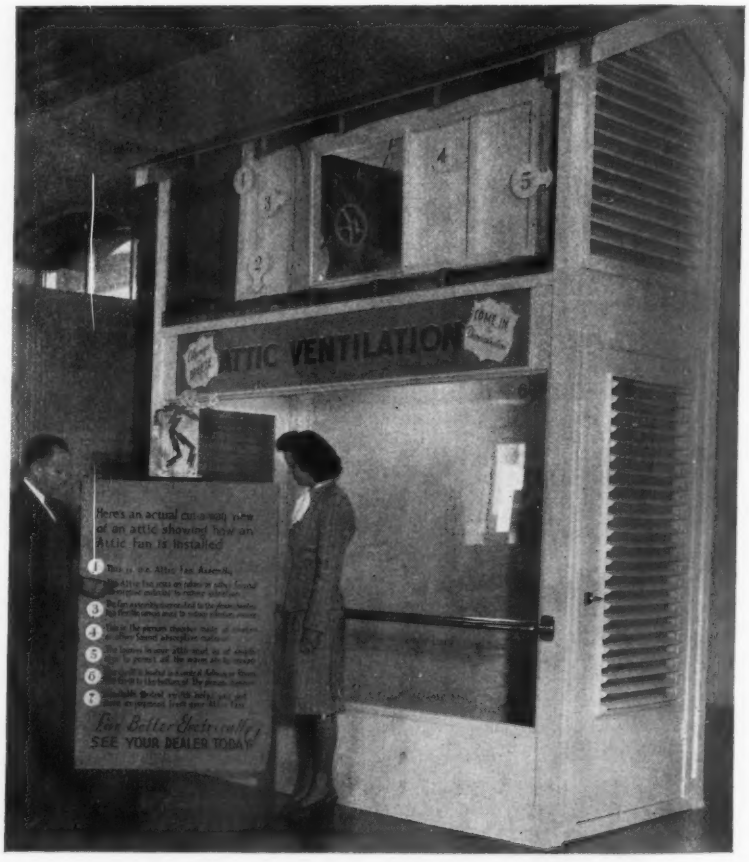
The lighting switches are designed to interrupt only on a sustained overload like a "short," making allowance for a purely momentary excess load. The lighting and the power panels are located on the wall of a storage room just inside a door leading from the latter to the processing department. In this way, these panels are protected from the moisture always present in a dairy operation. At the same time, they are readily accessible to operators in the processing room.

In the latter and in the bottling and ice cream manufacturing departments, four-inch steel metal "square duct" or "wire way," largely was substituted for regular conduit. This duct is supplied in five foot sections, each of which is a separate unit having a hinged lid giving easy access to the wiring inside. Each unit terminates, at either end, in a flange by which the sections may be joined (bolted) together to give a continuous run of any desired length.

The duct, in this particular installation, is carried along the ceiling with a six inch clearance between the latter and the lid. Suspension was effected by means of sheet metal hangers made from 12-gauge galvanized material.

By use of this duct, the distribution wiring is located above the area of maximum moisture in those sections of the plant where large quantities of water regularly are employed. The remote-control magnetic starters for the various equipment items are moisture-protected, too, by being bracket-mounted to the duct. The latter provides also, a convenient means of connecting machines.

(*Continued on page 73*)



Attic Ventilation Display

The Dallas Power and Light Company, of Dallas, Texas, features the attic fan in a combination demonstration and sales promotion display. The display is a real life-size installation of an attic fan and is useful in demonstrating the proper method of installing a fan. The display has attracted considerable attention and is expected to be helpful in bringing in prospects during the summer.

By using ribbons in the fan box, as well as in the grilles and louvers, the company accents the effect of air motion even to the point of indicating the direction of air flow. Except in the fan box, the ribbons do not show up in the above picture. R. A. Shive, of Dallas Power and Light Company, is shown in the picture, pointing out major factors of the fan to Miss Betty Watson, of the same company.

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What Rural Electrification Means to North Carolina

By David S. Weaver*

TWELVE YEARS ago rural electrification meant almost nothing to the farmers of this State, except the possibility of a better light than kerosene lamps could give. The idea that electricity could be used for income-producing purposes was not widespread.

A state-wide housing survey in 1932 resulted in concentrating the thinking of rural people on the possibility of getting electricity, and as a result of the activities of certain individuals and organizations, the Rural Electrification Act of 1935 for North Carolina was passed. About the same time the Federal Government started the Rural Electrification Administraton, and with awakened interest on the part of municipalities and power companies, a very active program for the electrification of the rural areas of North Carolina was begun.

In 1935 there were 11,000 customers classed as rural customers in the State on approximately 1800 miles of rural extensions. By 1944 the number of customers had risen to approximately 100,000 with 30,000 miles of line. While North Carolina was making progress, of course, other states were engaged in rural electrification programs, but it is significant that North Carolina was 25th in the total number of rural customers in 1935 but rose to 11th place by 1941. An estimate of 437 kilowatt hours per year as an average for rural customers was made in 1935, and an actual survey in 1943 showed an annual average use of 1197 kilowatt hours.

Rural electrification played a tremendous part in North Carolina's ability to produce food during the war period. For example, many of our counties have almost completely revolutionized their type of agriculture and one of the greatest contributing factors was the availability of heat, light and power from electric lines. An example is Chatham County, North Carolina, which is now rated among the 10 best poultry producing counties in the United States, and 15 years ago it had practically no commercial poultry raising. The following table shows some of the increases in production and in appliances used:

Item	1935	1943
Chickens	18,000,000	38,000,000
Eggs	46,000,000 doz.	84,000,000 doz.
Milk	148,000,000 gals.	170,000,000 gal.
Radios	29,000	152,000
Water Systems	16,000	24,000
Refrigerators	2,000	38,000

A significant fact is that the number of refrigerators now in use is about five times the number estimated to be used before we began the rural electrification program. A recent survey by a national magazine indicated that over fifty per cent of the farmers who expected to install water heating equipment in their homes plan to use electric water heaters.

The many new uses of electricity on the farm and in the farm home will create a demand for wiring and appliances unprecedented in our program so far. An example is the interest in the home freezer cabinet, and there is evidence on all sides that thousands of these units will be sold as soon as they are available. The swing from ordinary cooking devices to electric ranges is in full progress and the availability of these units will set in motion a great deal of activity in sales, wiring and service.

On a national basis, for which figures are available, it is estimated there are 3,544,000 farms still unelectrified and that in the rural areas, but not classed as farms, are 2,800,00 dwellings still unelectrified. A vigorous five-year program is in the making which should see at least 3,600,00 rural dwellings connected, which would require millions of dollars invested in wiring, plumbing and other appliances. Of all the so-called postwar programs, the rural electrification program is probably the best organized and in the best position to make immediate progress as soon as materials and men are available.

The electrical contractors of this State and elsewhere have a tremendous responsibility and opportunity for service. In spite of the many agencies at work attempting to increase and improve the farmer's knowledge of electricity, the contractors have an opportunity equalled by no other group. Contractors are the persons who make the first direct approach to the farmer and the chance of influencing the farmer's actions is very great. If each contractor would learn more about the possibility of using electricity in the farm home and on the farm for income producing purposes, he would be in a better position to give the farmer the type of wiring system he so badly needs. Nothing is more expensive than to put in a system too small.

If the contractors will study the problem and then have the courage to encourage farmers to put in an adequate system at the first installation, they will not only be rendering the farmer a great service but will be helping their own business. Contrast that with a method all too prevalent at present, namely, the reducing of prices with the consequent reduction in size of wire and number of outlets, in an effort to get the business from a competitor. After all, these houses are going to be wired and they should be wired right, not only for the immediate future, but for the probable increase in load which will naturally take place. If contractors can see the handwriting on the wall, they will prepare themselves for this business and the best tool in their kit of tools for that preparation will be a knowledge of farm needs.

*Mr. Weaver is head of the Department of Agricultural Engineering, North Carolina State College, Raleigh. This article is a synopsis of a talk made before the annual meeting of the North Carolina Electrical Inspectors and Electrical Contractors held recently in Raleigh, N. C.

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Continuing national color advertising starting with the July issue of Good Housekeeping Magazine will be backed by extensive Sales Training and Point-of-Sale Materials.

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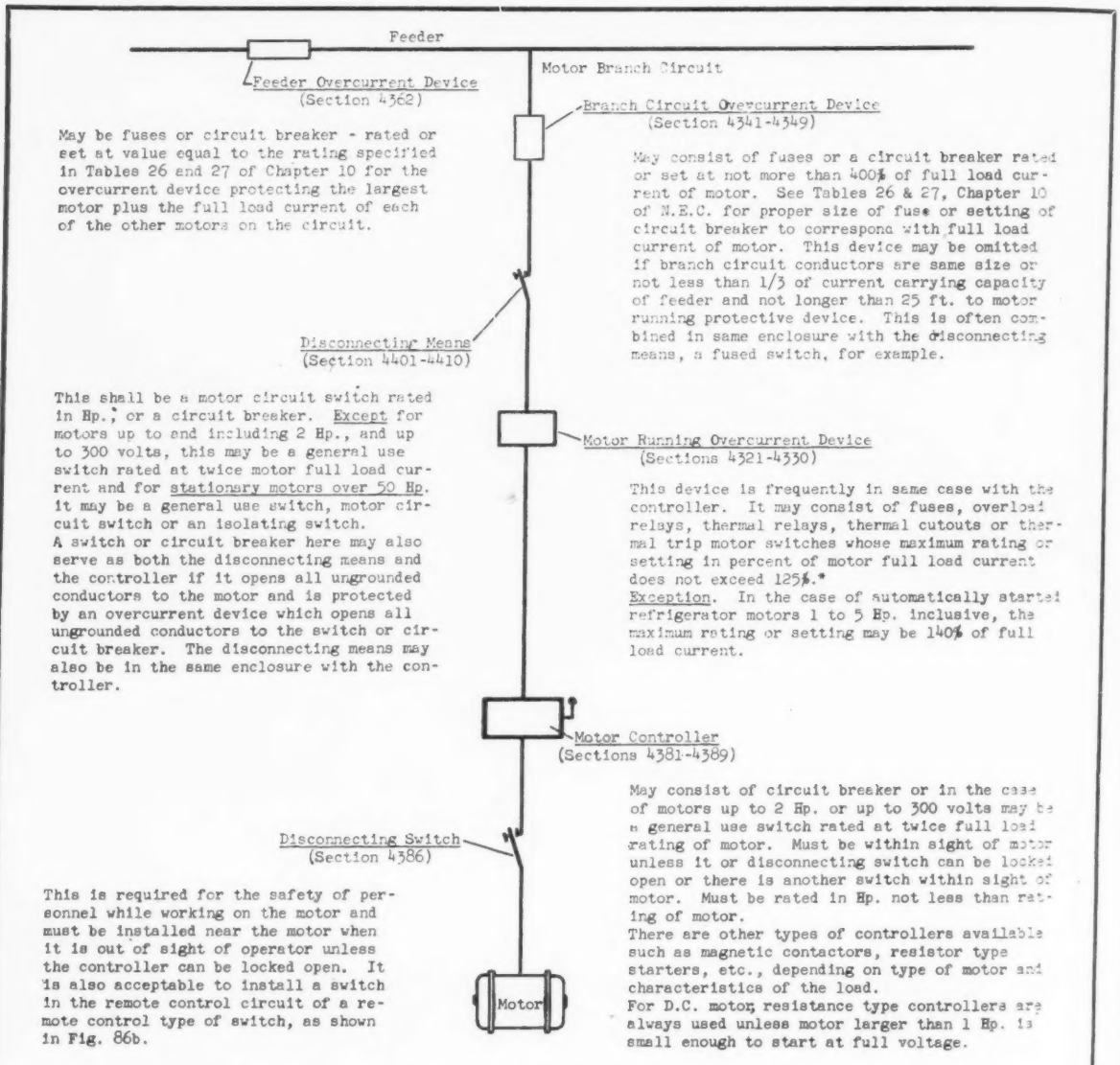
Protection of Motor Circuits

THE APPLICATION of protective devices for the protection of motors and motor circuits, as provided for in the National Electrical Code, has been presented in simple, easy-to-understand diagram form by the Factory Mutual Fire Insurance Companies in a booklet just issued under the title "Protection of Electric Circuits and Machines." Written by C. F. Hedlund, electrical engineer, and A. L. Brown, chief engineer, both of Factory Mutuals, the book discusses protection of electrical equipment.

Recognizing the value of diagrams as a means of obtaining an understanding of Code rules, the editors of Electrical South are reprinting, with permission of the copyright owners, the diagrams relating to motors and motor circuits. These will be


Feeder
Feeder Overcurrent Device
(Section 4362)
May be fuses or circuit breaker - rated or set at value equal to the rating specified in Tables 26 and 27 of Chapter 10 for the overcurrent device protecting the largest motor plus the full load current of each of the other motors on the circuit.
Motor Branch Circuit
Branch Circuit Overcurrent Device
(Section 4341-4349)
May consist of fuses or a circuit breaker rated or set at not more than 400% of full load current of motor. See Tables 26 & 27, Chapter 10 of N.E.C. for proper size of fuse or setting of circuit breaker to correspond with full load current of motor. This device may be omitted if branch circuit conductors are same size or not less than 1/3 of current carrying capacity of feeder and not longer than 25 ft. to motor running protective device. This is often combined in same enclosure with the disconnecting means, a fused switch, for example.
Disconnecting Means
(Section 4401-4410)
This shall be a motor circuit switch rated in Hp., or a circuit breaker. Except for motors up to and including 2 Hp., and up to 300 volts, this may be a general use switch rated at twice motor full load current and for stationary motors over 50 Hp. it may be a general use switch, motor circuit switch or an isolating switch.
A switch or circuit breaker here may also serve as both the disconnecting means and the controller if it opens all ungrounded conductors to the motor and is protected by an overcurrent device which opens all ungrounded conductors to the switch or circuit breaker. The disconnecting means may also be in the same enclosure with the controller.
Motor Running Overcurrent Device
(Sections 4321-4330)
This device is frequently in same case with the controller. It may consist of fuses, overload relays, thermal relays, thermal cutouts or thermal trip motor switches whose maximum rating or setting in percent of motor full load current does not exceed 125%.*
Exception. In the case of automatically started refrigerator motors 1 to 5 Hp. inclusive, the maximum rating or setting may be 140% of full load current.
Motor Controller
(Sections 4381-4389)
May consist of circuit breaker or in the case of motors up to 2 Hp. or up to 300 volts may be a general use switch rated at twice full load rating of motor. Must be within sight of motor unless it or disconnecting switch can be locked open or there is another switch within sight of motor. Must be rated in Hp. not less than rating of motor.
There are other types of controllers available such as magnetic contactors, resistor type starters, etc., depending on type of motor and characteristics of the load.
For D.C. motor, resistance type controllers are always used unless motor larger than 1 Hp. is small enough to start at full voltage.
Disconnecting Switch
(Section 4386)
This is required for the safety of personnel while working on the motor and must be installed near the motor when it is out of sight of operator unless the controller can be locked open. It is also acceptable to install a switch in the remote control circuit of a remote control type of switch, as shown in Fig. 86b.
Motor

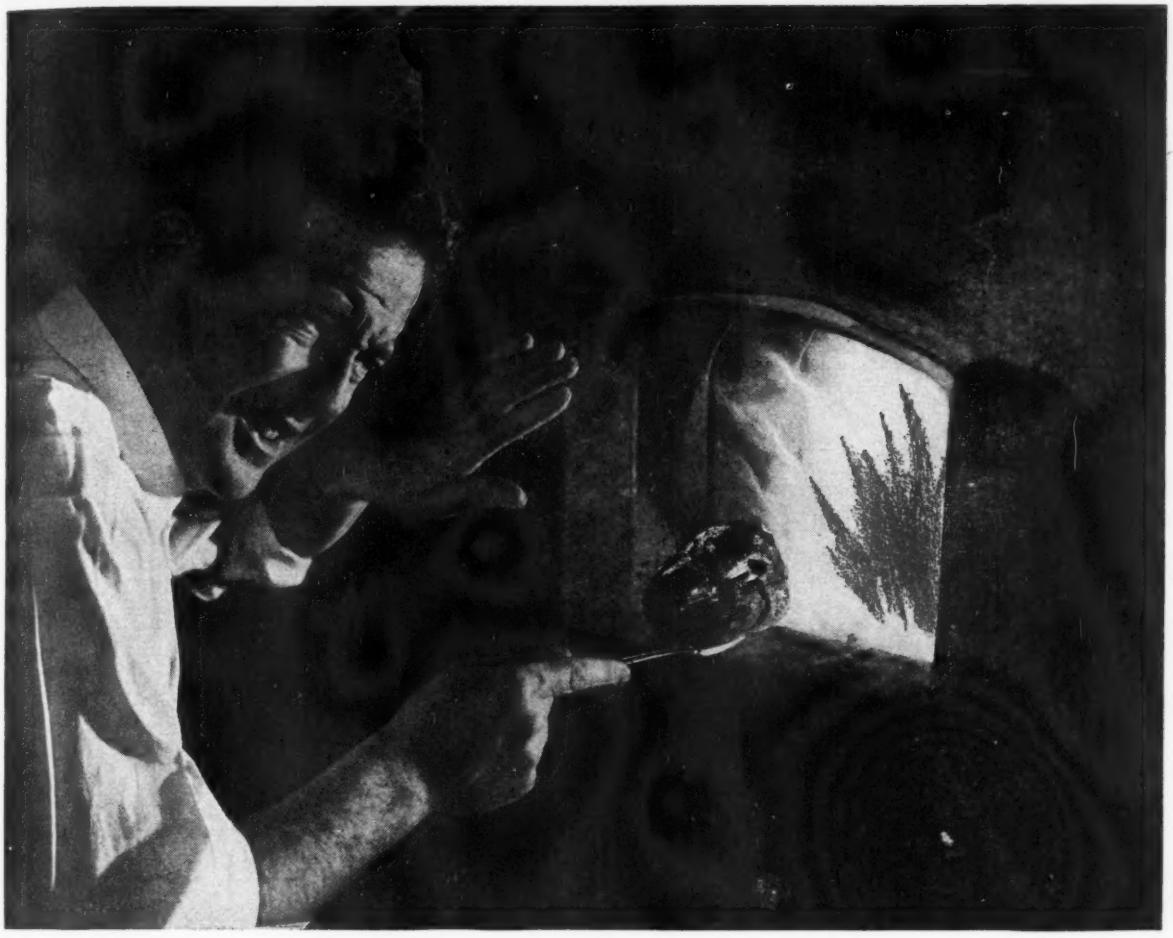
*For the duration of the war, the rating or setting of overcurrent device may be 135% for continuous duty 40°C. open type A.C. motors.

FIG. 84

GENERAL RULES

A.C. and D.C. Motors Larger Than 1 Hp. and Under 600 Volts

Because of the basic importance of adequate wiring to the entire electrical industry, Anaconda is presenting messages like this in a wide list of national publications



Trying to Stoke a Furnace with a Teaspoon?

It's just as unwise to expect out-of-date wiring to fully serve modern electrical equipment

Wire ahead!

PRODUCTION LOSSES through obsolete wiring service can run from 25% to 50%...regardless of machine production ratings!

Guard against this needless waste ...protect your investment in new, advanced electrical equipment . . . make sure expanded power loads won't exceed your power sources.

Today, put in a call for your consulting or plant power engineer—or for your electrical contractor or power salesman. A discussion with him now may save you many thousands of dollars in emergency alterations, shutdowns later. Anaconda Wire & Cable Company, Subsidiary of Anaconda Copper Mining Company, 25 Broadway, New York 4, N. Y. Sales offices in Principal Cities.

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DON'T BE PENNY-WISE AND POWER-FOOLISH

ANACONDA **ANACONDA WIRE & CABLE COMPANY**

published serially in the next three or four issues. They are published directly as they appear in the Factory Mutual booklet so that references to various figure numbers will be simplified.

Although the diagrams are largely self-explanatory, the following text will help the reader obtain a general idea of the purpose of the various protective devices.

Figures 84 and 85 are one-line diagrams showing the customary approved arrangement of the control and protective devices for motors and motor circuits of less than 600 volts and larger than 1 hp. in accordance with the regulations of the National Electrical Code.

Overcurrent and **overload** in electrical terminology are essentially synonymous; they both apply to a condition where the current in a circuit or a machine is more than normal, due to to excessive number of current-consuming devices on a circuit, or a machine or motor being loaded in excess of its rating, or short circuits on the supply conductors or in the equipment itself. Hence an overcurrent device, or an overload device, as it is sometimes called, is for the purpose of protecting the circuits or machine

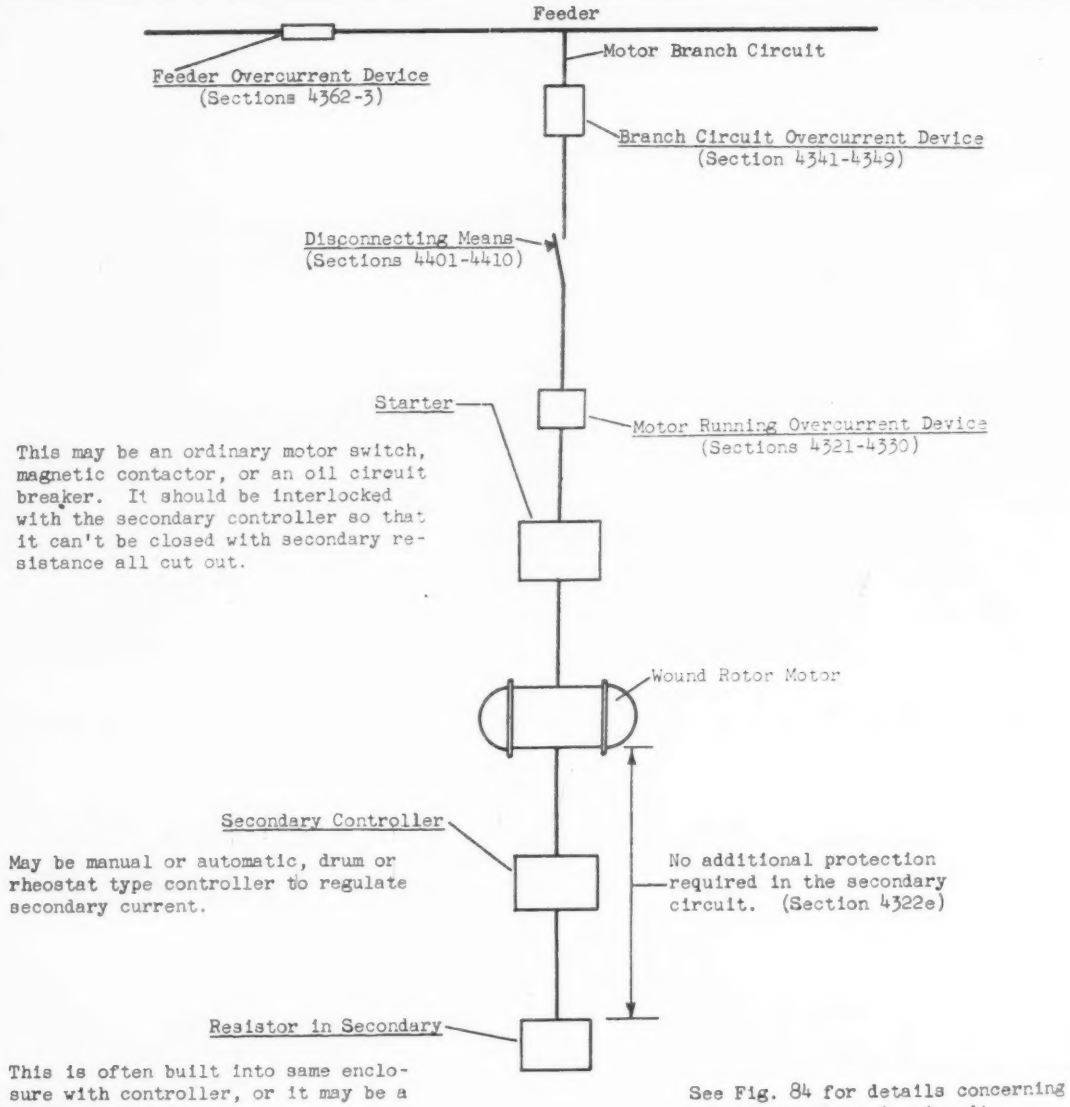
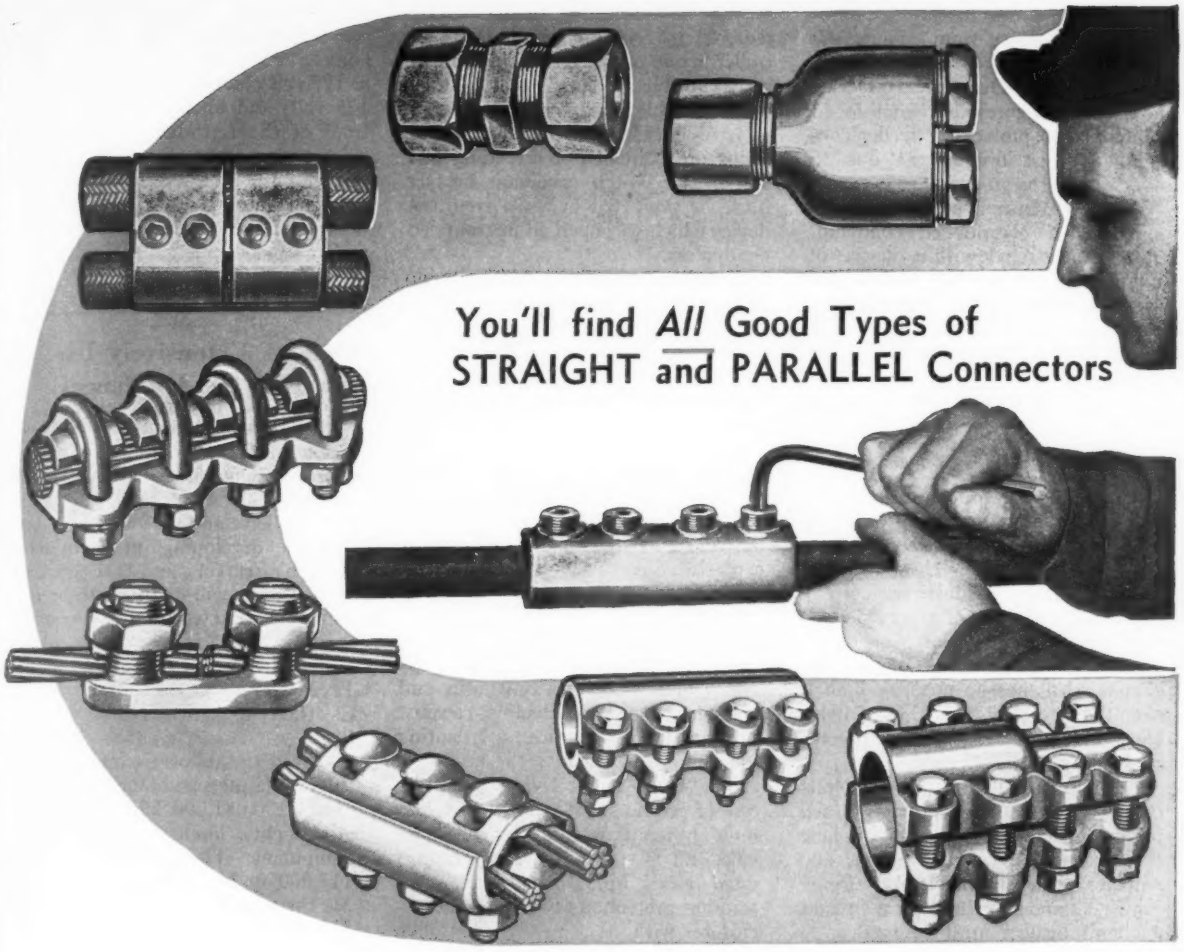

Feeder
Motor Branch Circuit
Feeder Overcurrent Device
(Sections 4362-3)
Branch Circuit Overcurrent Device
(Section 4341-4349)
Disconnecting Means
(Sections 4401-4410)
Starter
Motor Running Overcurrent Device
(Sections 4321-4330)
This may be an ordinary motor switch, magnetic contactor, or an oil circuit breaker. It should be interlocked with the secondary controller so that it can't be closed with secondary resistance all cut out.
Wound Rotor Motor
Secondary Controller
May be manual or automatic, drum or rheostat type controller to regulate secondary current.
No additional protection required in the secondary circuit. (Section 4322e)
Resistor in Secondary
This is often built into same enclosure with controller, or it may be a separate grid.
See Fig. 84 for details concerning devices in the main circuit.

FIG. 85
WOUND ROTOR MOTORS
Less Than 600 Volts



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Yes, it's mighty handy to open your Penn-Union Catalog and pick the exact type you need. They're all there—in a complete range of sizes: Bolted straight connectors . . . screw type . . . various split sleeve types . . . shrink fit . . . universal clamps . . . E-Z connectors with yoke and nut, etc.

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against damage due to excessive temperatures resulting from abnormally high current.

The Feeder Overcurrent Device shown in the figures above-mentioned is intended to protect the feeder conductors against over-current due to short circuits or grounds.

When overcurrent protection is required, each ungrounded conductor must be protected with a device of suitable rating or setting, as described under Section 4362 of the National Electrical Code. A grounded conductor need not be protected against overcurrent if each ungrounded conductor of the same circuit is so protected.

Branch Circuit Protection

The purpose of the motor branch circuit protective device is to protect the motor branch circuit conductors, the motor control apparatus, and the motor against overcurrent due to short circuits or grounds.

Thermal cutouts, relays, and other devices not designed to open short circuits, shall not be used for branch circuit protection. (N.E.C. 2404). (Section number in National Electrical Code.)

In most installations of 600 volts or less, fuses are most commonly used for branch circuit protection. Where the current in a circuit exceeds 600 amperes, which is the largest size in which standard fuses are made, a circuit breaker must be used.

On branch circuits of more than 600 volts, the overcurrent protection must be provided by means of circuit breakers or special fuses. Fuses must be the oil-filled or other suitable type (N.E.C. 4424), and they must be guarded against accidental contact by locating them in a safe room or enclosure, accessible only to qualified persons, or by elevation 8 feet or more above the floor. (N.E.C. 4432.)

The individual branch circuit protective device may often be omitted when the circuits are arranged as shown in Figs. 87, 88a-b, 89, 90, 91a-b-c, 92a-c-d, 95b-c, to be published in following issues.

Disconnecting Means

In order to work safely on a motor or controller, some means of disconnecting the apparatus from the circuit must be provided, and since the disconnecting means must disconnect the controller as well as the motor, it must be a separate device as shown in Figs. 84 and 85, although it can be in the same enclosure with the controller.

The controller is considered a satisfactory disconnecting means, and the separate disconnecting switch usually required may be omitted if the controller is one of the following: **a manually** operable air-break switch, a manually operable circuit breaker, or an oil switch of not over 100 amperes rating on a circuit not exceeding 600 volts. The switch or circuit breaker must be protected by an overcurrent device which will open all ungrounded conductors.

On circuits exceeding 600 volts, no additional disconnecting means need be provided other than the fuses or the circuit breaker which constitute the branch circuit protective device.

Depending upon the size of the motor and conditions of its use, the disconnecting means may be any one of the following: a motor circuit switch, a general use switch, a circuit breaker, the branch circuit protective device, or an attachment plug and receptacle.

Running Overcurrent Device

The purpose of the motor running over-current device is to protect the motor and its control apparatus and branch circuit conductors against damage due to overheating resulting from motor overloads.

The Code requires, except in the case of certain small motors, that running over-current protection be provided for all continuous duty motors rated over 1 hp. In many cases the running protection is in the same enclosure with the motor controller, and the Code also permits, according to Section 4344, the motor running protection to be combined in a single unit with the branch circuit protection if the rating or setting of the device provides the running overcurrent protection specified in Section 4322.

The motor running overcurrent device may be omitted where motors are not of the continuous duty type and are used for short time, periodic, intermittent or varying duty, such as is required for operating valves, elevators, shop cranes, rolls, pumps, etc. For such conditions it is considered that the branch circuit overcurrent device provides adequate protection if it conforms to Tables 26 and 27 of Chapter 10 of the Code.

There are now four devices on the market, known as "Fustats," "Fusetrons," "Therm-A-Trips," and "Tamres," which combine in a single unit the protective features of a motor branch circuit overcurrent device and a motor running overcurrent device. The Fustat, Therm-A-Trip and Tamres look like a plug type fuse with an Edison screw shell base, and they are also available with special bases for use in special fuseholders or with adapters for use in Edison base fuseholders in sizes up to 30 amperes and in 125-volt circuits. For circuits above 125 volts and up to 600 volts, Fusetrons of the cartridge type are available in sizes up to 600 amperes.

The Fustats are often used to protect small motors for which the Code does not require running protection, and it is good practice to do so when such protection can be obtained at so small a cost.

Farmers Extensively Use Labor-Saving Appliances

IT is a mistaken notion many have that farmers find that the lighting of their homes and farm buildings is their greatest use for electric current. Manufacturers have already found that rural areas are developing into their most profitable markets, and that potentially rural areas will continue to be outstanding markets for many years to come.

The Progress Report made by the Texas Committee on the Relations of Electricity to Agriculture, approved by the Texas A. & M. College, is the source of the following information:

Texas farmers and ranchmen use annually 170,081,000 kilowatts in operating lights, home and farm electric equipment. They have invested $34,117,000 in home equipment, including the wiring of the house, and $10,521,000 for electric farm equipment.

Farmers have installed in their homes almost every kind of labor-saving electric operated appliance found in city homes. Listed in the progress report on 130,000 Texas farms, are 110,500 irons; 117,000 radios; 71,500 refrigerators; 3,500 freezer chests; 32,500 water systems. 39,000 washers; 1,300 ironers; 6,500 ranges; 7,800 vacuum cleaners; 2,600 water heaters, and 104,000 miscellaneous items.

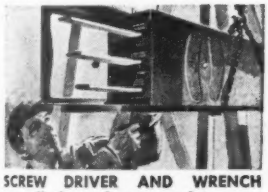
On the farms are listed: 39,000 lighted barns; 8,000 milk coolers; 5,000 milkers; 4,000 cream separators; 800 water heaters; 19,500 brooders; 10,400 miscellaneous poultry equipment; 10,400 lighted poultry houses; 500 feed grinders; 400 feed mixers; 10,400 motors, and miscellaneous equipment numbering 52,500.

Broiler for Table Use

A small electric broiler for table use, shaped like half a watermelon, is now obtainable. In addition to broiling, it bakes, roasts, fries and boils. A heat indicator on the top eliminates guesswork. Inside are a wire rack for searing and browning and an enameled gravy plate.

Plugged in . . . power on . . . time 12 minutes

NO WAITING FOR POWER *with a BUStribution System—simply raise the plug to the nearest plug-in opening, snap its contact fingers over the busbar conductors and bolt the plug to the duct casing. The plug itself is a current protective device for the machine it serves.*



SCREW DRIVER AND WRENCH *are all the tools you need to completely dismantle and reassemble a BullDog BUStribution System. Made up of prefabricated, standardized sections, the entire system can be used again and again in new combinations and at new locations. No fabrication on the job is necessary.*

NO SCRAP WITH ANY MOVE! *There is no waste when you move a BullDog BUStribution System from one location to another. The component materials—steel duct, copper bus bars and vitreous porcelain—do not readily deteriorate and can be used indefinitely.*

Capacities: Feeder Type — 600 Amps. to 4000 Amps.; Plug-in Type —225 Amps. to 1350 Amps.

You Can Do It With BullDog BUStribution DUCT

Quick production changes are easy to make in a plant equipped with BullDog BUStribution Duct, because each 10-foot section has ten handy plug-in outlets for the ready insertion of circuit-protective plugs to convey current from the bus bars in the duct to the machine.

One machine or a whole battery of machines can be moved—anywhere in your plant—without costly delays for rewiring. It's actually less than a 12-minute job to plug in a machine at any new location—and you cut in the power without down time for the rest of the line.

Because they are prefabricated, BullDog Bus Duct systems save countless hours of installation time. And their flexibility gives you power and light where they are needed and when they are needed. BullDog Duct systems can be moved quickly from one production set-up to another with complete re-use of all material and full protection against accidental short circuits.

If you would like to learn more about this flexible, economical method of power distribution, call a BullDog field engineer, or write for descriptive folders.

BullDog Also Manufactures Vacu-Break Safety Switches—SafToFuse Panelboards —Switchboards—Circuit Master Breakers—Industrial Trol-E-DUCT for Portable Tools, Cranes and Hoists—Universal Trol-E-DUCT for completely flexible lighting.

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ELECTRICAL DISTRIBUTION SYSTEMS

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NEWS of the INDUSTRY

Institute Graduates Sales Training Class

POSTWAR SALES training gets under way despite current shortages of production through the completion of the first Basic Information Classes for the training and retraining of electric appliance salesmen conducted by The Electric Institute of Washington.

Certificates of graduation were awarded 57 students among whom were three women. Over 60% of the class consisted of World War II veterans.

The course, unique in sales training, presents the first coordinated sales education program inaugurated cooperatively by a single industry, and was the culmination of a long range postwar planning program.

George F. Kindley, chairman of the Institute's Sales Training Committee, presided at the exercises and pointed out to the students "that this first course you have just completed is the first milestone in a year-around sales education program that will give you well rounded practical sales training".

The principal address was delivered by Victor C. Cole, Washington manager for The Addressograph-Multigraph Corp., author of a widely known sales-training text "Creative Selling".

R. F. Mook, sales training director of The Electric Institute, who planned, prepared, and conducted the classes, awarded the certificates of graduation.

The following 28 member firms of The Electric Institute were represented by students who currently attended the courses: Electrical Center, W. F. Hummer & Son, Sears, Roebuck & Co., General Electric Supply Corp., Virginia Appliance Co., District Electric Co., Reliance Appliance Co., Washington Electric Co., District Home and Auto Supply, Kelvinator Div., Nash-Kelvinator Corp., United Distributors, Inc., Lansburgh & Bro., Woodward and Lothrop, David W. Gregory, Sun Radio Co., Washington Wholesalers, District Coal Co., Inc., Max Alperstein Dept. Store, Harold S. Smith, Hoffman's Home Appliances, The Hecht Co., Trunnell Electric, Southern Wholesalers, Doubleday-Hill Electric Co., United Clay Products Co., Mayer & Company, Edgar Morris Sales Corp., Potomac Electric Power Co.

Apprentice Training Under Way in Dallas

ONE OF THE FIRST apprentice programs to gain approval on a major scale now gives every indication of producing for Dallas, Texas, more electricians to aid in the future expansion of business, industry and residential housing.

The Dallas class consists of 42 apprentices who are getting practical training with electrical contractors who are members of the North Texas Chapter of the National Electrical Contractors Association.

Apprentices are required to work eight hours a day on job training and attend night classes two nights a week, two hours per class. Detailed records are kept of their progress in school and the various electrical contractors to whom the men are indentured keep a careful check of their progress on actual electrical installations. The entire course covers a period of four years and requires 8000 hours of work covering the entire electrical field, including residential, commercial and industrial wiring; substations, switchboards, specialty work; refrigeration; and electronics.

All but eight or nine of those presently enrolled are veterans. Age limit is 16 to 25, although veterans are eligible up to age 28. If an apprentice moves from Dallas to another city where such a program is being carried out, he is eligible to continue his work in the other city.

While the Government-sponsored apprentice training program had its beginning in Washington in 1939, it was not till late in 1945 that it began to function effectively. The war, of course, interferred and put a standstill to various programs planned for various industries.

Trav Lewis, director of the government's Apprentice Training Service in Texas, Oklahoma and New Mexico, and C. H. Culpepper, Dallas territory representative, contributed a great deal toward working up the program. A Joint Apprenticeship Committee was named, composed of representatives of management and labor, and finally was approved by Wm. F. Patterson, of Washington, national director of the Apprentice Training Service.

The Dallas committee is composed of the following: Bob Fischl, chairman, R. P. Gay, E. D. Raney and Lawrence Martin, representing the electrical contractors; T. M. Kersey, secretary, W. B. Mizell, Maurice Laughlin and E. L. Jernigan, representing Local No. 59, IBEW. This committee worked for three months drawing up the program.

The Dallas, Texas, area is promised more qualified electricians through the apprentice training plan worked out by a committee including representatives of the North Texas Chapter of the National Electrical Contractors' Association and Local No. 59 of the International Brotherhood of Electrical Workers. Apprentices and committee gathered for this picture.

Huerkamp Announces Dates Of Lighting Exposition

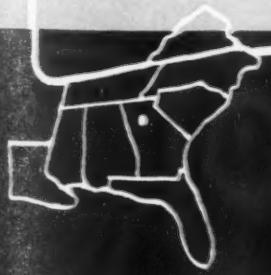
THE 1947 International Lighting Exposition will be held in Chicago, November 3-7, 1947, according to an announcement by E. C. Huerkamp, chairman of the exposition.

Why the

ELECTRICAL AGENTS 10 YEAR CLUB

The Electrical Agents forming this group...each having served the Electrical industry of the South for ten years or more...have banded together to collectively outline their facilities to offer a better service to the trade and point out Atlanta's advantages as an Electrical center.

With a greater number of years of service to the Electrical Industry of the South, these men are more intimate with the Southern jobber's problems and how to approach them, this with ample warehousing facilities strategically located for faster service to a greater number of points make their facilities more valuable to manufacturers and jobbers whom they serve.



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Bendix Announces Electronics Pick-up

AN ENTIRELY new "armored vacuum" tube in the tip of the phonograph tone arm instantly translates mechanical sound from the record into electronic modulations in a direct action electronic pick-up which has just been announced by L. C. Truesdell, general sales manager for Radio and Television, Bendix Radio Division of the Bendix Aviation Corporation.

He declared the device to be revolutionary in its simplicity and capable of reproducing the full beauty of recorded music including delicate tones now lost to other than the best studio type reproducers. The new pick-up is ideal for consumer use, said Mr. Truesdell, because it resists abuse and is incapable of damaging records, practically abolishing record wear and high replacement costs.

Basic operation of the new device was described by W. L. Webb, Bendix director of research and engineering, who said: "We believe this to be the simplest and most direct pick-up of sound from records: the mechanical undulations are transmitted from the record groove by a filament which introduces them directly into the electron stream within the new 'armored vacuum' tube—all within a small fraction of an inch. By this means many intervening steps are eliminated together with the danger of loss of fidelity, trouble possibilities, and increased cost of manufacture.

"Our use of the armored vacuum tube indicates that the new pick-up is absolutely temperature and humidity proof. Not only do we see universal demand for it in this country, but the world-wide market previously denied quality pick-ups because of climatic conditions is now wide open. The Bendix Radio electronic pick-up will neither deteriorate from disuse, nor does it require any special handling."

The new pick-up contains further advantages in overcoming scratch and possessing a minimum of distortion, Mr. Webb continued. "Needle talk" that has driven other manufacturers to elaborate means of insulating cabinets with grooves and felts is virtually absent. Vertical needle noise is overcome by introducing compliance into its mechanical design.

"While we might employ either sapphire contact points or those utilizing semi-precious metals for full tone response, our pick-up will probably eliminate the jewels for their tendency to chip when dropped or struck. Our design has banished record damage, and we believe it is of prime importance that our instrument is safe in the hands of the public, including the naturally careless and children," Mr. Webb emphasized.

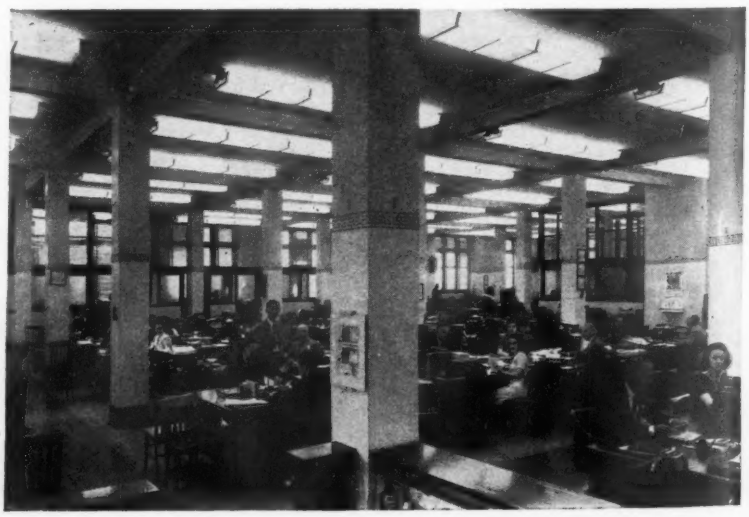
How the Installation Looked Before Relighting

Six Times Increase in Lighting Accomplished

OF OUTSTANDING interest to lighting engineers is the accomplishment of Armour and Company, Chicago packers, in the relighting of their six-floor general office building at the Chicago Stockyards, said to be one of the largest commercial lighting installations since 1941. The oustanding feature of this installation is the fact that the average desk-level illumination was increased six times, that is, from six to 37 foot-candles, with no appreciable increase in total connected lighting load.

The installation required approximately 1300 Mitchell U. R. C. Model 2032 fluorescent luminaires to illuminate the more than 100,000 square feet of floor area. In addition to the desire for greater illumination, the specifications called for soft, comfortable glare-free light, and a reduction of ceiling shadow areas. Aside from other reasons, fluorescent lighting was selected because the ceiling height on all floors is 15 feet, 8 inches, the area is air conditioned and heat load could not be increased to any great extent, and the capacity of building wiring would not permit any appreciable increase in lighting load. The photographs reproduced here show "before" and "after" views of a typical floor.

The New Installation



Write for new wall hanger soon available. In meantime, use this chart

SERVING YOU THROUGH SCIENCE

NEW CODE CHANGES SHOW PROGRESS IN BRANCH CIRCUIT WIRING

		R	RH	RW	RU	T (Formerly S.N)	TW
Maximum Operating Temperature	1940	50 C	75 C	50 C	60 C	60 C	
	1946	60 C	75 C	60 C	60 C	60 C	60 C
Insulation Wall Thickness	1940	3/64"—#14, 12, 10 AWG 4/64"—#8—2 AWG 5/64"—#1—4/0 AWG	3/64"—#14, 12, 10 AWG 4/64"—#8—2 AWG 5/64"—#1—4/0 AWG	3/64"—#14, 12, 10 AWG 4/64"—#8—2 AWG 5/64"—#1—4/0 AWG	18 Mils (1.15/64) #14, 12, 10 AWG	2/64"—#14, 12, 10 AWG 3/64"—#8 AWG 4/64"—#6—2 AWG 5/64"—#1—4/0 AWG	
	1946	2/64"—#14, 12 AWG 3/64"—#10 AWG 4/64"—#8—2 AWG 5/64"—#1—4/0 AWG	2/64"—#14, 12 AWG 3/64"—#10 AWG 4/64"—#8—2 AWG 5/64"—#1—4/0 AWG	3/64"—#14, 12, 10 AWG 4/64"—#8—2 AWG 5/64"—#1—4/0 AWG	18 Mils (1.15/64) #14, 12, 10 AWG 25 Mils (1.6/64) #8, 6 AWG	2/64"—#14, 12, 10 AWG 3/64"—#8 AWG 4/64"—#6—2 AWG 5/64"—#1—4/0 AWG	2/64"—#14, 12, 10 AWG 3/64"—#8 AWG 4/64"—#6—2 AWG 5/64"—#1—4/0 AWG
Uses (Under National Electrical Code)	1940	General Use	General Use	General Use or in Wet Locations	Rewiring Only	Rewiring Only	
	1946	General Use	General Use	General Use or in Wet Locations	General Use May be used in Non-Metallic Sheathed Cable	#14—4/0 AWG General #14—2000 MCM Open Work	#14—1/0 AWG General #14—2000 MCM Open Work
Sizes (Under National Electrical Code)	1940	#14—2000 MCM	#14—2000 MCM	#14—2000 MCM	#14, 12, 10 AWG	#14—4/0 AWG	
	1946	#14—2000 MCM	#14—2000 MCM	#14—2000 MCM	Now Approved in Sizes #14—6 AWG	#14—4/0 AWG General #14—2000 MCM Open Work	#14—4/0 AWG General #14—2000 MCM Open Work

Current Carrying Capacity (In Amperes)

1940

Size	Conduit*	Open Wiring	Size	Conduit*	Open Wiring	Size	Conduit*	Open Wiring	Size	Conduit*	Open Wiring	Size	Conduit*	Open Wiring	Size	Conduit*	Open Wiring
14	15	20	14	22	29	14	15		14	18		14	18				
12	20	26	12	27	37	12	20		12	23		12	23				
10	25	35	10	37	50	10	25		10	31		10	31				
8	35	48	8	49	69	8	35					8	41				
6	45	65	6	65	94	6	45					6	54				
4	60	87	4	86	125	4	60					4	72				
2	80	118	2	115	170	2	80					2	96				

1946

Size	Conduit*	Open Wiring	Size	Conduit*	Open Wiring	Size	Conduit*	Open Wiring	Size	Conduit*	Open Wiring	Size	Conduit*	Open Wiring	Size	Conduit*	Open Wiring
14	15	20	14	15	20	14	15	20	14	15	20	14	15	20	14	15	20
12	20	25	12	20	25	12	20	25	12	20	25	12	20	25	12	20	25
10	30	40	10	30	40	10	30	40	10	30	40	10	30	40	10	30	40
8	40	55	8	45	65	8	40	55	8	40	55	8	40	55	8	40	55
6	55	80	6	65	95	6	55	80	6	55	80				6	55	80
4	70	105	4	85	125	4	70	105							4	70	105
2	95	140	2	115	170	2	95	140							2	95	140

*Not more than 3 conductors in conduit, raceway or cable. For more than three conductors in conduit, raceway or cable, reduce current carrying capacity in accordance with 1946 Code.

Write for new wall hanger soon available. In meantime, use this chart

NOTE: According to Underwriters Laboratories; 1946 Code—R, RH and RW—may be labeled after April 1, 1946. Manufacturers need not produce until November 1. When production does start, Underwriters' labels must be applied and tags must be marked: "1946 Code."

1940 Code—R, RH, RW—may be labeled until November 1, 1946. Stocks in inventory after November 1 may be used until supply is exhausted.

Laytex (RU) is America's smallest diameter, lightest weight rubber insulated branch circuit wire. Laminated construction and perfectly centered conductors insure electrical safety.

UNITED STATES RUBBER COMPANY

1230 AVENUE OF THE AMERICAS • ROCKEFELLER CENTER • NEW YORK 20, N. Y.

C. W. Kellogg Retires From EEI Presidency

THE RETIREMENT on June 30th of Charles W. Kellogg, president of the Edison Electric Institute, will officially terminate a career of 43 years of distinguished service to the electric utility industry. During this time, Mr. Kellogg served as an operating and a holding company executive, and in his present position as head of the principal trade association of the electric utility industry.

Born in Philadelphia in 1880, Mr. Kellogg received the degrees of BS (1902) and MS (1903) from Massachusetts Institute of Technology. After graduation, he joined the utility concern of Stone & Webster—a connection that was to last for 36 years. He was elected president of Engineers Public Service Company shortly after its organization by Stone & Webster and associated interests in 1925. He became chairman of the board in 1933, and continued in this post until 1939.

He served as part-time, non-salaried president of Edison Electric Institute for three years, in addition to his duties with Engineers Public Service Company. His work with the trade association was so outstanding that the Institute's board of directors prevailed upon him to take the post as a full-time responsibility. In 1939, he resigned from his Engineers Public Service connection, and became the Institute's salaried full-time president.

San Antonio Orders Transmission Cable

ANNOUNCEMENT of an order totalling approximately $350,000 for cable and accessories for an underground transmission line for the city of San Antonio has been made by the Wire and Cable Division of the General Electric Company. J. S. Overstreet, manager of sales of the Cable Division, stated that this order was part of a $600,000 expansion program authorized by the Public Service Board of the city of San Antonio, and that the program is scheduled for completion before the end of this year.

According to Mr. Overstreet, the line, nearly 11 miles long, will connect the Olmos substation on McCullough Avenue and the Grandview substation on Westfall Avenue and connect with the B-plant on Mission Road. This will give the city a direct connection between the Comal Plant in New Braunfels and the B-plant in San Antonio.

The system, which will be buried in trenches, is designed to transmit a 50,000-kva load with a load factor of 60 per cent at 132,000 volts. Three single conductor No. 4/0 paper-insulated conductors drawn into a welded steel pipe will form the cable system. The steel pipe, which has a diameter of 5 – 9/16 inches and a ¼-inch wall, will be protected from corrosion by a special covering. Operating pressure of the insulating oil that fills the pipe will be 200 pounds per square inch.

Paragon Consolidates Offices at Wisconsin

PARAGON ELECTRIC Company, manufacturers of time controls, announces the consolidation of its main office, formerly in Chicago, with its factory at Two Rivers, Wisconsin. E. V. Platt, for many years executive vice-president, has been elected president and continues as general manager.

The plant has been greatly enlarged, new machinery has been installed and all operations have been completely conveyorized. The new facilities will enable the output to be increased by more than three-fold, and will contribute to cost reductions and to several other efficiencies.

Raybro Holds Major Appliance Schools

RAYBRO ELECTRIC Supplies, Inc., Tampa, Jacksonville, Miami, and St. Petersburg recently completed three very successful major appliance schools; one in Tampa, with 60 dealer servicemen in attendance; one in Miami, with 25 dealer servicemen in attendance; and one in Jacksonville, with 40 dealer servicemen in attendance.

These service schools were held for Raybro's franchised major appliance dealers to better equip them in the servicing of their lines of major appliances.

The service schools were conducted by W. T. Brown, merchandise service supervisor. He was assisted on Gibson service by W. O. Klein, Gibson field service representative from Belding, Michigan.

The classes not only covered theory and instruction but actual demonstration and servicing of various units.

Overall, about 95% of all their dealers were represented at the three service schools.

Milner Opens Agency Business in Atlanta

WILLIS J. MILNER, III, who before entering military service in 1942 was sales manager of Electric Sales and Service Company, of Atlanta, has entered the agency business in Atlanta, under the name of W. J. Milner and Company, with offices at 79 West Peachtree Place, N. W. He and his organization are serving wholesalers in Georgia, Alabama, North and South Carolina, Florida, Tennessee, and Mississippi.

Some of the manufacturers whom he represents in the lighting field are as follows: Gross Chandelier Company, of St. Louis; The Perfeclite Company, of Cleveland; and Quadrangle Manufacturing Company, of Chicago.

He also represents Thepitt Manufacturing Company, of Pittsburgh, who make rough-in material; Bodendieck Tool Company, of Taylorsville,

Illinois, who make hot line tools and clamps; Associated Projects Company, of Columbus, Ohio, makers of the Luminite electric light switch plate; and D. & M. Manufacturing Company, of Savannah, Georgia, who make switch and receptacle plates of aluminum.

Mr. Milner was discharged from service in October 1945, having attained the rank of Captain. He served in the European Theatre of Operations.

"How to Use It" Contest Winners Are Announced

THE WIREMOLD Company, of Hartford, Connecticut, manufacturers of surface metal raceway wiring systems, has announced the three big prize winners in their Wiremold Business-Builders "How to Use It" contest, which was open to all contractors and electrical maintenance men from October 1, 1945 to March 31, 1946.

P. M. Pavesich, of the Super Electric Construction Company, Chicago, was awarded the first prize of $500. Mr. Pavesich received the award for the Wiremold installation made by his company to provide adequate wiring for fluorescent units in a Chicago railroad office.

The second prize of $250 went to G. A. Chamblin, of the California Electrical Construction Company, San Francisco, for his use of Wiremold to wire an 8-story YMCA building.

G. A. Schultz, of 2931 Mapleshade Road, Ardmore, Pa., won the third prize of $100 for a complete installation of Wiremold No. 3000 and No. 700 in an office building, from panel box to flourescent units and outlets.

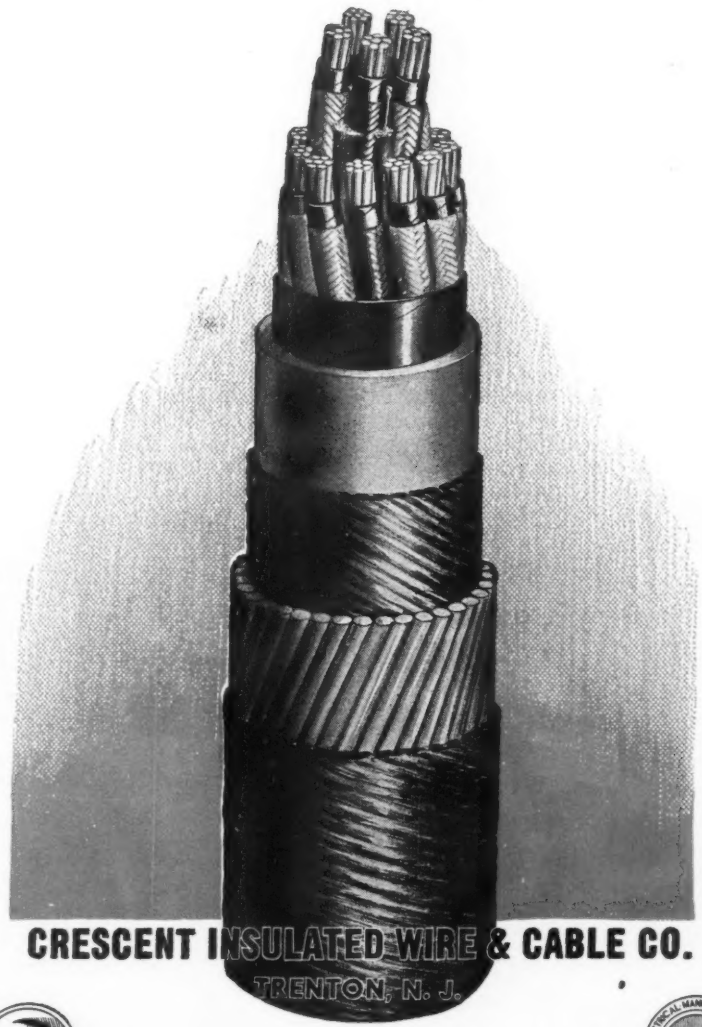
Westinghouse Announces Budget Purchase Plan

IN THE FACE OF generally higher prices for everything from chicken feed to diamond rings, the American housewife now learns that it will cost her less than ever before to finance the purchase of her postwar electric appliances.

This word came from the Westinghouse Electric Corporation, where C. F. Gilbert, manager of the Retail Finance Division, announced details of the Westinghouse Budget Purchase Plan, covering installment buying of electric appliances and radios.

Keynote of the new plan is its low cost to the retail buyer, according to Mr. Gilbert. It is a continuation of the downward trend in finance charges apparent over the past decade as more and more persons began using credit facilities for their purchases. Take one

CRESCENT
WIRES and CABLES
Serving Industry for More than Half a Century



CRESCENT INSULATED WIRE & CABLE CO.
TRENTON, N. J.

ATLANTA, GA., Edgar E. Dawes, 401-402 Rhodes Building
NEW ORLEANS, LA., Paul Hogan, Jr., 305 Levert Building
RICHMOND, VA., Robert W. Fishburne, 112-114 Exchange Bldg.
DALLAS, TEXAS, M. C. Huie Company, 707 Thomas Building

NEMA

example of a customer financing a balance of $150 on an appliance purchase over a period of 12 months. In 1938 typical charges for this service were $15.12. In 1940 they were reduced to approximately $11.00. In 1946 it will cost only $9 for the same accommodation.

Two separate arrangements for operation of the Westinghouse Budget Purchase Plan have been completed for the convenience of approximately 20,000 Westinghouse dealers and their customers from coast to coast. In the 37 Eastern states they will have available facilities of the Universal-CIT Credit Corporation. Similar service will be provided in 11 Western states by a group of 102 banks—known as the Western Bankredit Group—having 784 offices in that area. The Bank of America National Trust and Savings Association will act as coordinator for the bank group, serving as a focal point of contact between all banks and Westinghouse.

Wiegand's New Plant to Facilitate Production

THE EDWIN L. WIEGAND CO., Pittsburgh, Pa., is building a new plant to expand facilities for the manufacture of Chromalox electric range units and electric heaters for industry.

The new building, scheduled for completion by August 1, will add 45,000 square feet to present facilities and, with new equipment, will cost in excess of $300,000.00.

Expansion is made necessary by the ever-increasing demand for electric ranges with a consequent demand for electric range cooking units and the much wider use of electric heat by industry.

The Chromalox Triangular electric range unit, recently introduced by the Edwin L. Wiegand Co., represents a big step forward in the development of modern electric cooking, the manufacturers claim. The heating tubes of the new unit have a triangular shaped cross-section which provides maximum flat contact cooking surface. The manufacturers claim the new unit to be speedier, easier to clean, and more economical to operate than earlier tubular models.

In addition to Cromalox Triangulars, the Edwin L. Wiegand Company manufactures Cromalox Heatflos, cast-type electric range units; Cromalox Super-Speeds, ring-type units, and many different electric heaters for industrial use.

Feuillan Announces New IES Officers

W. A. FEUILLAN, JR., regional vice-president, Southern Region, Illuminating Engineering Society, announces the election of the following officers and board members for the year 1946-1947:

Georgia Chapter—chairman, Joe B. Browder, Georgia Power Company; vice-chairman, C. W. P. Roby, Sylvania Electric Products, Inc.; secretary-treasurer, R. W. D. Jones, Westinghouse Lamp Division; and members of the board, A. E. Bruner, Electric Supply Company, O. M. Ruff, Jr., General Electric Supply Co., and W. P. Stainback, Westinghouse Electric Supply Company, all of Atlanta.

New Orleans Chapter—chairman, Joseph M. Supple, Eaco, Inc.; vice-chairman, Charles L. Osterberger, Louisiana Power & Light Co.; secretary-treasurer, Robert Cecil Paslay, Louisiana Power & Light Co.; and members of the board, Daniel D. R. Charbonnet, Jr., Sylvania Electric Products Inc., C. R. Lee, Westinghouse Electric Supply Co., and J. Mason Guillory, New Orleans Public Service, Inc., all of New Orleans, La.

The New Orleans Chapter, Mr. Feuillan reported, has invited the Illuminating Engineering Society to hold its national convention in 1947 in New Orleans in September or October. Plans call for an increased participation by firms and individuals in the South in affairs of the Society and plans also call for making the convention, if held in New Orleans, a co-operative event on the part of all Southern Chapters. It is expected that several new Chapters will be formed in the South in 1946-47.

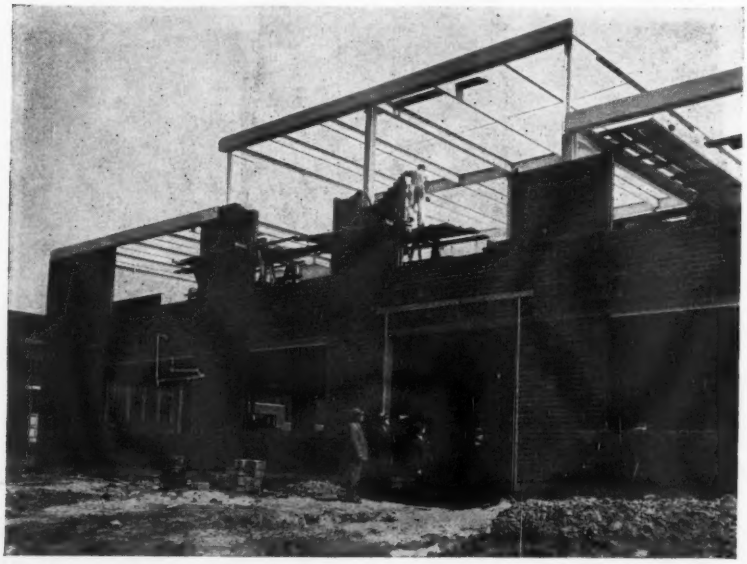
Utilities' War Record Described in Bulletin

THE FIVE-YEAR war record of the electric utility industry, which maintained complete and continuous service throughout the war to all customers, military and civilian, and also reduced the price of its services an average of 11 per cent between 1940-1945, is described in the annual statistical bulletin of the electric industry, just published by the Edison Electric Institute.

To meet the demand for war power, over 11 million kilowatts of generating machinery were installed, and three billion dollars spent for power stations, transmission lines, and other facilities, the bulletin states. A total of 300,000,000,000 kilowatthours of electric power were generated for war purposes, of which business-managed electric companies supplied 83-1/3 per cent.

The sale of power generated for war purposes brought $2,350,000,000 in revenue to the power companies. Almost the same sum, or $2,194,000,000, was returned to the Federal Government in direct taxes, according to the bulletin.

The average unit price of residential service was 11 per cent lower in 1945 than it had been in 1940, and the unit



Wiegand executives inspect construction of new plant. Pictured are, left to right: A. P. Wiegand, senior vice-president; E. N. Calhoun, president; B. A. Fleming, vice-president in charge of sales.

price of commercial and industrial power had declined by 10 and 12 per cent; respectively, the bulletin points out.

The average utility employee hourly wage increased nearly 30 per cent, between 1940 and 1945. A 1945 wage of $1.14 per hour, as compared with 88½ cents per hour in 1940, is but one example of rising costs of all items entering into public utility operation.

In spite of the housing shortage, more than two million new homes have been connected with electric service since Pearl Harbor. Household use of electricity recently registered a figure of 100 kilowatthours per month per average customer, the bulletin says, describing this as another milestone in the electrical progress of America.

The utility industry ended the war with adequate capacity to meet all demands, either historical or prospective, and has completely refuted the continuous prophesies of "power shortage." Had the extravagant estimates of power shortage prophets been followed, not only would the utilities have been saddled with additional burdens of heavy fixed charges, but the war would have been prolonged because of the diversion to the manufacture of unnecessary power-house equipment of the facilities which built our magnificent Navy, the bulletin declares.

Course on Residential Sales Training Held

THE HOME SERVICE Center, of the Florida Power Corporation, in St. Petersburg, recently was the scene of the first postwar Residential Sales Training Conference for company representatives throughout the entire system.

The conference was originated and assembled by R. H. Giedd, to better prepare the residential representatives with ammunition to sell an ever greater acceptance of electric service in the territory.

Running for a week, the conference included discussions of rates by D. B. Hyer, Jr., manager of the Industrial Development Department, while C. W. Ailstock, residential and dealer sales supervisor, handled most of the instruction. Talks and discussion groups were led by Mr. Giedd, W. B. Shenk, E. B. Brant, and R. B. Schroeder, along with aids furnished by outstanding manufacturers in the electrical industry.

Edison Electric Institute films of sales training, along with actual experience, formed the backbone of the entire course.

Chromy says:

CHROMALOX

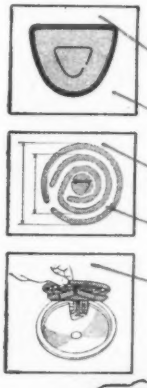
TRIANGULAR RANGE UNITS

Fit any Make or Size Electric Range

A screw driver is all you need to install CHROMALOX *Triangular* Range Units. With just two unit sizes, and Adaptor Rings, you can service all range openings.

CHROMALOX *Triangulars* are profitable and easy to sell. Housewives prefer the speed, easy cleanability, economy and long-life built into CHROMALOX *Triangular* Range Units.

Extra volume and added profits are yours when you feature CHROMALOX *Triangulars* for electric range replacement. Write today for full particulars.



CHROMALOX SELLING ADVANTAGES

- Ever-level Cooking Surface
- Sheathed in "Inconel"
- Exclusive Surface Pattern
- Two Cooking Areas
- All Parts Easily Cleaned

on new ranges and for replacements

CHROMALOX

EC-15

means ELECTRIC Cooking at Its Best!

EDWIN L. WIEGAND COMPANY · 7600 THOMAS BOULEVARD, PITTSBURGH 8, PA.

C. B. ROGERS, 1000 P'tree St., N.E., Atlanta, Ga.; L. R. WARD CO., 403 Southl'd Bldg. Annex, Dallas 1, Tex.; 932 M.&M. Bldg., Houston 2, Tex.; W. R. PHILLIPS, P.O. Box 2561, Raleigh, N.C.

Names in the News

Robert H. Bishop has been named director of sales for all divisions and subsidiaries of Sylvania Electric Prod-

Robert H. Bishop

ucts, Inc., according to an announcement made recently by **Don G. Mitchell**, newly-elected president.

Mr. Bishop, who joined Sylvania Electric in 1936, will be responsible for the coordination of selling policy in all divisions of the company as well as its subsidiaries, Colonial Radio Corporation and Wabash Corporation. He will also have direct line responsibility for the sales organization of the lamp, fixture, radio tube and electronics divisions.

* * *

On the way toward prewar status in staffing branch offices of the Ilg Electric Ventilating Co., Chicago, Illinois, several new appointments have been announced by **P. D. Briggs**, vice-president and general sales manager.

F. H. Bigelow has been named manager of the ILG office in Atlanta, Georgia. Mr. Bigelow is a graduate of the Armour Institute of Technology of Chicago. He served with Commonwealth Edison Co., of Chicago, for two years and with a local air conditioning contractor in Memphis, Tennessee, for five years. In 1937 Mr. Bigelow became manager of the ILG branch office in Memphis where he remained until his new appointment.

Replacing Mr. Bigelow as manager of the Memphis office is **H. H. Wilson**, recently released from the Navy. Mr. Wilson received a B.S. degree from the University of Tennessee in 1940 and workd a short time with the Bell Telephone Co. and the Federal Power Commission.

In Knoxville, Tennessee, the ILG office has been re-opened under the supervision of **E. Lloyd Widner**, manufacturers' representative for the last 12 years. After attending Knoxville schools and Johnson Bible College, Mr. Widner gathered experience in the heating and ventilating field with C. M. McClung & Co.

In Louisville, Kentucky, **Henry M. Lutes** has been established as manager of the ILG branch office. Holding a B.S. degree from the University of Kentucky, in 1934 Mr. Lutes became associated with the Columbus Heating and Ventilating Co., of Columbus, Ohio. Subsequently, he represented the Minneapolis-Honeywell Regulator Co., the Gates Rubber Co., and the American Air Filter Co.

* * *

C. R. Brogan, Atlanta zone manager of the Kelvinator Division of Nash-Kelvinator Corporation, was cited recently by company officials on completion of his twentieth year with Kelvinator.

Mr. Brogan joined the company in 1926, with the service department

C. R. Brogan

in Detroit, and was transferred to the sales department in 1929 as a district manager. He was appointed manager of the Atlanta branch in 1934, and when the branch was enlarged into a zone operation in 1939, he became manager of the zone, assuming charge of Kelvinator's sales and distribution throughout the Southeast.

* * *

A. Raysson, general sales manager of Domestic Appliance Division of Pressed Steel Car Company, Inc., announces the appointment of **Roy Hert** as supervisor of advertising and sales promotion for Presteline major household appliances.

Mr. Hert has been connected with the appliance business for a number of years—in charge of advertising, sales promotion and sales training on water heaters and dishwashers at Westinghouse, and responsible for national sales promotion campaigns at Frigidaire. Also, he was in charge of the sensational Zenith hearing aid promotion.

Mr. Hert will have his office in the Domestic Appliance Division headquarters at 666 Lake Shore Drive, Chicago.

* * *

The Cory Glass Coffee Brewer Co., of Chicago, announces the appointment of **Raymond A. Johnson**, as assistant advertising manager. An Army veteran, serving two years in the European theater, Mr. Johnson is also a well-known veteran of more than eight years in Chicago advertising circles. Previous to his Army service, he held the post of assistant advertising manager of the Fairbanks-Morse Company, of Chicago.

* * *

Harris Reinhardt has been named manager of the Commercial Engineering Department of Sylvania Electric Products, Inc., Lighting Division, according to a recent announcement by **Robert Bishop**, general sales manager of the Lighting Division.

In his new position, Mr. Reinhardt, who has been with Sylvania Electric since 1940, will be responsible for the commercial engineering on all products merchandised by the Lighting Division.

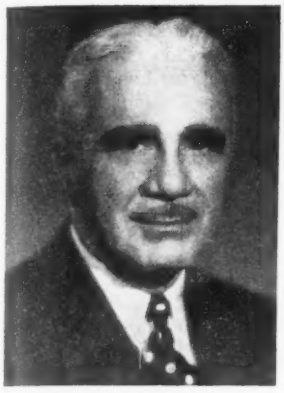
* * *

Promotion of **Lloyd MacGann** to branch manager of the Baltimore office of the Minneapolis-Honeywell Regulator Company was announced by **Arnold Michelson**, New York resident vice-president.

Mr. MacGann joined the company in 1937, and, after a training course, was assigned to the Providence office and, in 1942, was assigned to the Boston branch. At the time of his transfer, he was senior air-conditioning controls salesman in the Boston territory.

Expansion of the Baltimore office is also planned, Mr. Michelson said, which will permit **Frank Bell**, former Baltimore manager, to devote his entire attention to the company's heating controls division.

The appointment of **Paul W. Conrad** as sales manager of the Premier Vacuum Cleaner Division of the General Electric Company was announced recently by **J. B. Buckley**, manager of the Premier Division. Mr. Conrad,



Paul W. Conrad

with headquarters in Cleveland, succeeds **C. A. Thompson**, resigned.

Since 1940 Mr. Conrad has been regional sales manager for Premier in the territory comprising the states of Ohio, Michigan, Indiana, and Kentucky with supervision over Premier sales offices in Cleveland, Detroit, Cincinnati, and Fort Wayne. His association with Premier dates back to 1923 when he joined the company as a salesman. His record since that time has been one of outstanding achievement in the field of vacuum cleaner selling.

* * *

Lighting Products, Inc., Highland Park, Ill., has announced the appointment of **Dan E. Dunne** as sales manager. Lt. Dunne has recently been released from the Navy, where he served as ordnance officer in charge of testing anti-aircraft munitions at Boston.

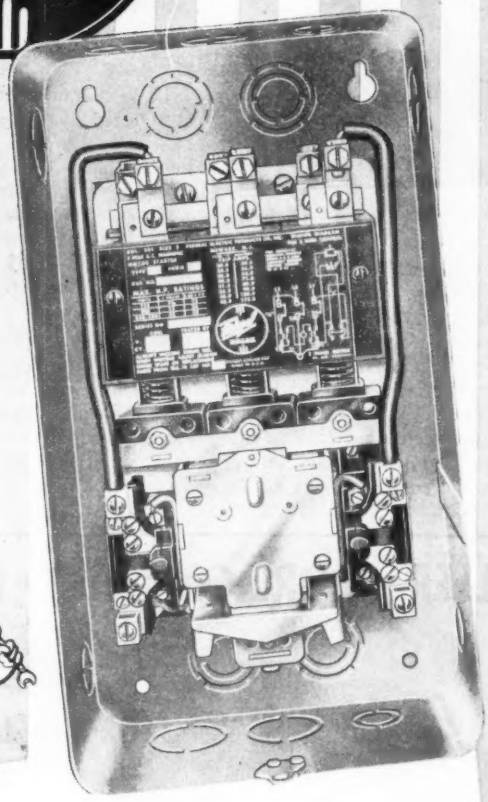
Prior to the war, Lt. Dunne represented Chase Brass & Copper Co., and Edwin F. Guth Co., in the Chicago territory. He was previously lighting specialist for a prominent midwestern wholesaler. He holds a B.S. degree in electrical enginering from Illinois Institute of Technology and has served on various committees of the Chicago Section, Illuminating Engineering Society.

* * *

William Todd was named advertising manager of the merchandise division at the Belden Manufacturing Company, wire and cable manufacturers, of Chicago. He recently was discharged from the Navy with the rank of lieutenant (USNR).

Federal
NOARK

SIZE 3
MAGNETIC
MOTOR STARTER



For man-size jobs of stop-and-go
Without a bit of care or woe
This starter really fills the bill . . .
A fine example of Federal's skill!

Sets a new standard of ease and speed in replacement of any stationary or moveable contacts. Coil replacement in a few seconds without disturbing line or load connections. Greater compactness, yet more ample wiring space. Silver contacts on all current interrupting points. Exclusive vertical ball-bearing operation for highest speed solenoid action. Overload relays, combination hand or automatic reset, for dependable protection.

FEDERAL ELECTRIC PRODUCTS COMPANY, INC.
EXECUTIVE OFFICES: 50 PARIS ST., NEWARK 5, N. J. PLANTS: HARTFORD, CONN. NEWARK, N. J.

B. K. Wickstrum has been appointed general sales manager of lighting products for Sylvania Electric Products, Inc., according to an announcement made in New York recently by **Robert H. Bishop**, director of sales for the company.

B. K. Wickstrum

Mr. Wickstrum, who will make his headquarters in New York, will be responsible to Mr. Bishop, former lighting products sales manager, for the sale of incandescent and fluorescent lamps, fluorescent fixtures and wiring devices. Since joining Sylvania Electric in 1939, he has served as West Coast and Mid-West sales manager and advertising and sales promotion manager of the Lighting Division.

A graduate of the School of Commerce of Northwestern University in 1936, Mr. Wickstrum was affiliated with the Hearst newspapers and Advertising Almanac services before going to Sylvania Electric. He is a member of the Illuminating Engineering Society, the Sales Executives Club of New York, and the American Marketing Association.

* * *

H. G. Clum, general sales manager of The Art Metal Company, manufacturers of lighting equipment and Disinfectaire Ultraviolet Germicidal equipment, has announced the appointment of **Walter O. Bergh** as The Art Metal Company's Florida representative and **G. H. Arnold** as Southeastern representative.

Mr. Bergh is a graduate of the University of Miami's Engineering School. Before enlisting in the Air Corps in 1943, Mr. Bergh sold fluorescent fixtures throughout Florida and became well acquainted with the electrical field and its practical applications.

Mr. Arnold has been active in the promotion of IES lamps and has worked closely with utility promotional programs on better home lighting. He will represent The Art Metal Company in Georgia, Alabama, South Carolina, and Tennessee.

* * *

William I. Meyers, III, has been appointed division manager, major appliance sales, for Landers, Frary and Clark, in the Virginia's and Carolinas. Prior to the war, Mr. Meyers was connected with Landers, Frary & Clark, but left in 1942 to take the position of training consultant with the Office of Emergency Management and War Manpower Commission. In his work, he received an industry award. During the last war Mr. Meyers served as a Marine.

Wm. I. Meyers, III

* * *

The Standard Transformer Company, Warren, Ohio, announces the appointment of **Walter E. Thompson** as sales representative in the state of Alabama. Mr. Thompson will have his offices at 447 Martin Building, Birmingham 3, Alabama, and will handle a complete line of Standard transformers—power, metering, street lighting and testing, dry and liquid-filled types. In addition, he will act in an advisory and consulting capacity to all buyers and prospective users of transformers in the state of Alabama.

* * *

Jack Peevey, formerly associated with several Texas cooperatives, has been appointed district representative for construction materials sales for the General Electric Company, with headquarters in Houston, according to an announcement by **R. L. Snodgrass**, manager of the Southwestern District.

Mr. Peevey was formerly employed by such firms as the McLennan Co., the Electric Cooperative at McGregor, and the Pedernalas Electric Cooperative in Johnson City.

SMALLER • MORE COMPACT • NEATER

Gibson

COMMERCIAL FIXTURE
(FLUORESCENT)

One of the most compact fixtures on the market today providing a neater appearance with a distinctiveness individual for this type commercial fixture. With reflector finished in infra-red "hi-bake" white enamel this fixture has a reflectance value of over 85% providing the maximum lighting efficiency.

NO. 4400
$32.50
AS SHOWN
LESS TUBES
AND STEMS

Each unit is wired complete, testing and individually boxed. Available in either a 4400—4 tube, 40 watt at $35.20 or 2400—2 tube, 40 watt at $21.50.

Overall sizes 11 inches wide, 5⅓ inches deep with ends 48¼ inches long. Standard 36 inch drop—30 inch stems available at $2.75.

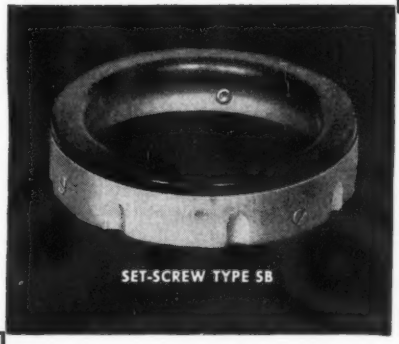
Gibson MANUFACTURING CO. ATLANTA, GA.

GIBSON MANUFACTURING COMPANY
132 10th STREET, N. E. ATLANTA, GEORGIA

INSULATED BUSHINGS

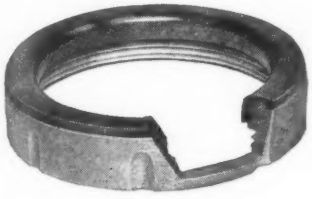
GROUNDED TYPE BL

they're OK



SET-SCREW TYPE SB

if they're O.Z.



CONDUIT TYPE B

Bakelite molded into a cadmium plated, malleable iron base—provides the O.Z. Insulated Bushing with those extra features you want.

The high insulation characteristics of the bakelite guarantees no vibration shorts, while at the same time the strength of the malleable iron base permits tightening the bushing all the way down on the conduit without stripping the bushing threads. Further, the deep metal base of the bushing insures that a Junction Box is secured and correctly grounded to the conduit without the use of an inside locknut. Last but not least, all O.Z. bushings are capped to prevent dust and water accumulation in the conduit prior to pulling cable.

With electrical wholesalers handling the complete O.Z. line, you can get O.Z. products right off your local supplier's shelves—without waiting. Call him now.

O.Z. ELECTRICAL MANUFACTURING COMPANY

262 BOND STREET · BROOKLYN 2, N. Y.

CONDUIT FITTINGS • CABLE TERMINATORS
CAST IRON BOXES • SOLDERLESS CONNECTORS
GROUNDING DEVICES • POWER CONNECTORS

1585

New Electrical Products

Lamp Selling Package

A COMPLETE selling package is offered by Verd-A-Ray Corporation, Toledo, in the new A-72 assortment of its original insect repellent lamps.

The assortment consists of 72 bulbs in popular 60 and 100-watt sizes. A flasher socket insures attention and sales value for the colorful bright blue and yellow counter dispenser in which the bulbs are packed. The dispenser measures only 13 inches in width and height, and is but ten inches deep—small enough to fit into most any display space.

A two-color window banner, fifty descriptive envelope stuffers, and two newspaper mats complete the selling tools included in each assortment.

Self-Charging G-E Portable

A NEW SELF-CHARGING portable radio developed by General Electric, and now being built at the company's Bridgeport, Conn., plant, operates for 20 hours on a penny's worth of electricity.

Power for the new portable is supplied by a two-volt, leak-proof storage battery which operates the radio for 20 hours on a single charge. The battery then can be recharged rapidly by plugging it into ordinary a-c (house current). The receiver also is designed to play at any volume while the battery is being charged.

The set incorporates "rugged" electronic and mechanical features which G.E. built into military communications equipment for tanks, according to Paul L. Chamberlain, manager of sales for the G-E Receiver Division.

G.E. will make the portable in two models, one designed for standard broadcast reception, the other with standard and five short-wave bands. Both will have die-cast aluminum construction throughout, designed to stand up under out-of-doors punishment. The sets will weigh about 20 pounds.

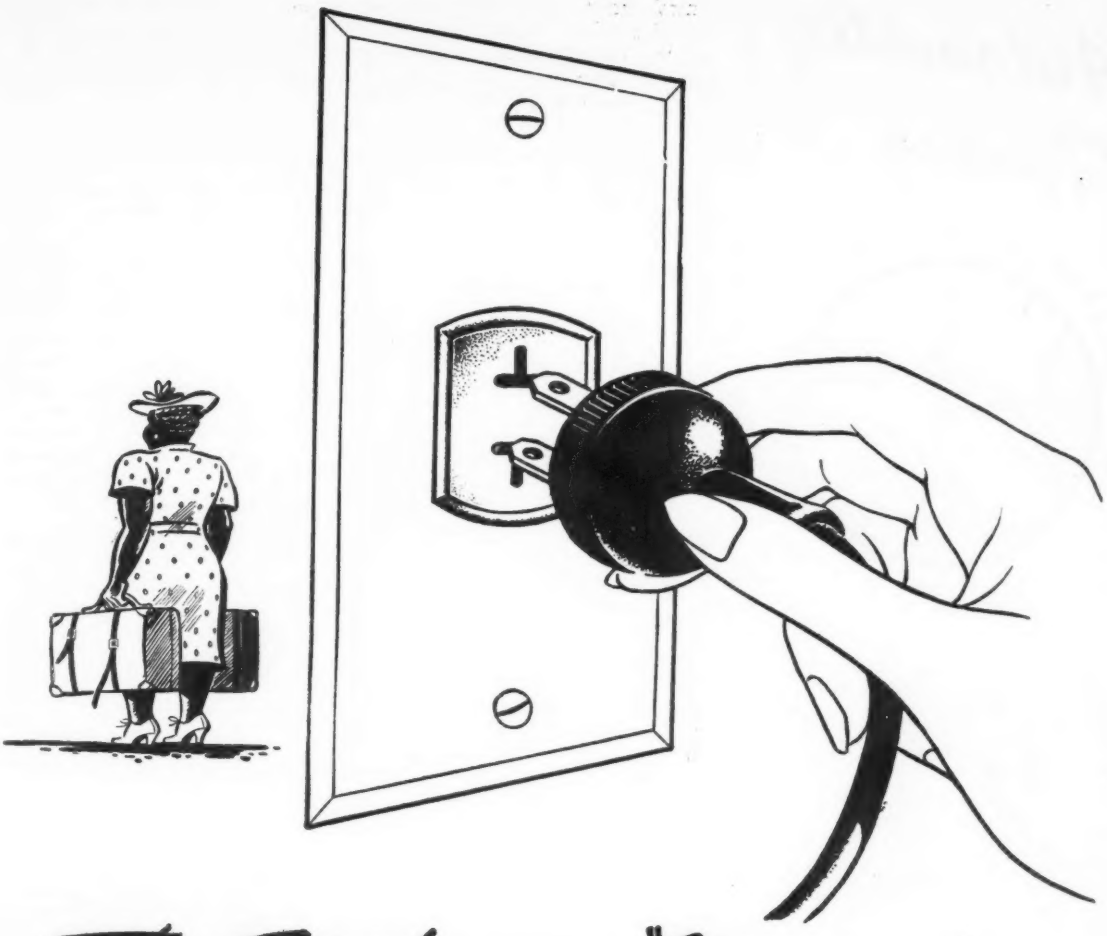
10 KVA Portable Brazer

FOR GENERAL brazing service in joining copper or copper alloy parts which may be brought together between the jaws of brazing tongs, a new portable 10 kva brazer with air-cooled tongs is announced by the Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa.

The new single phase, 60-cycle unit weighs 100 pounds, is provided with four large caster-type wheels and two convenient handles for quickly moving or carrying any place in the shop or yard. It requires only connection to a 220- or 440-volt source. Alternating current from an adjustable voltage transformer passes through the tongs and parts to be brazed.

The transformer with line contactor is enclosed in a sturdy sheet-metal case, and a clamp-type entrance bushing is provided for the incoming primary cable. Built into the front of the brazer, the control panel contains outlets for brazing tong cables, receptacle for foot switch pilot cable, and voltage tap changing plug. The two-pronged plug-in switch quickly changes brazing voltage to 12, 10, or 8 volts. A switch for energizing the contactor

Specify
ADVANCE BALLASTS
FOR UNEXCELLED PERFORMANCE
ADVANCE
FLUORESCENT LAMP BALLAST
ADVANCE TRANSFORMER COMPANY
Leading manufacturers of lighting fixtures use and recommend "ADVANCE" Ballasts for QUIET operation, high efficiency performance, low replacement cost and long life. "ADVANCE" Ballasts are streamlined for easy installation in fixtures and are approved by Underwriters' Laboratories.
ADVANCE TRANSFORMER CO.
Cable Address: ADTRANS
1112 W. Catalpa Ave.
Chicago 40, Ill., U. S. A.



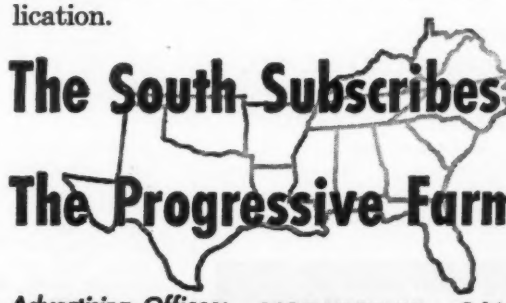
The South's new "Mammy"

FOR the first time in history, the South has a servant problem. The "Mammy" who used to do the housework got a job in a factory during the war. And the vigorous growth of Southern industry will help her to keep that job during peacetime.

The South's solution to this problem is the purchase of household appliances just as fast as they come on the market. The South's new "Mammy" is *electricity* and the countless labor-saving devices electrification brings to the home and farm.

The Rural South alone plans to spend $1 BILLION for electrical appliances during the next five years. The South's leadership in rural electrification, coupled with a shortage of domestic help, has created an enormous sales opportunity for appliance manufacturers.

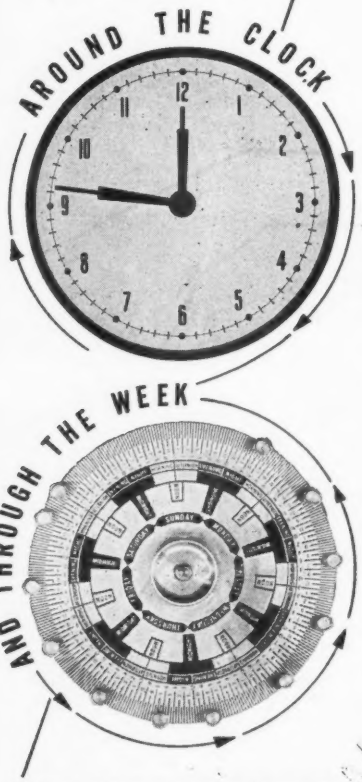
Are you building trademark preference in this mighty market? The Progressive Farmer is the South's leading magazine. More Southerners will see your advertising in The Progressive Farmer than in any other publication.



The South Subscribes to The Progressive Farmer

Advertising Offices: BIRMINGHAM, RALEIGH MEMPHIS, DALLAS, NEW YORK, CHICAGO
Pacific Coast: Edward S. Townsend Co., San Francisco, Los Angeles

Automatic Timing



● Control time on a series of operations *for a whole week* . . . a different schedule every day . . . that's what you can do with a Paragon 700 Series Time Switch . . . and do it automatically.

Ideal for controlling time of heating, ventilating, lighting, pumping, flushing or similar operations.

Paragon 700 Series Time Switches are equipped with 6" calendar dials which make one complete revolution every 7 days. Dial trippers can be independently set for different daily ON and OFF schedules.

Operations from ON to OFF or from OFF to ON can be set as close as three hours apart. $24.50 List—Telechron Motored. Write for complete bulletin.

PARAGON ELECTRIC CO.
1618 Twelfth Street, Two Rivers, Wisconsin

SALES REPRESENTATIVES

HOPPER & McCOY
306 Marietta Street, N.W. . Atlanta 3, Georgia

GEORGE E. ANDERSON COMPANY
Santa Fe Bldg. . Dallas 2, Texas . Phone R-4013

Paragon Chicago
BUILDERS OF ELECTRICAL EQUIPMENT SINCE 1905

control circuit is also provided on the control panel. Cooling of the unit is effected by natural air draft which enters at the bottom, passes over the brazing transformer, and is expelled through louvered openings at the top.

Further information concerning the 10 kva brazer may be secured from the Westinghouse Electric Corporation.

Power Factor Regulator

THE HAUG System power factor regulator is announced by the Modern Control Equipment Company, 176 W. Adams Street, Chicago. Connected to the lines of commercial power users, the makers state that it will raise the power factor by taking the magnetizing current off the line with a negligible cost in operation . . . that, by increasing the power factor, it will greatly reduce the monthly power bill . . . will increase low voltage to desired value where voltage was previously low due to poor power factor.

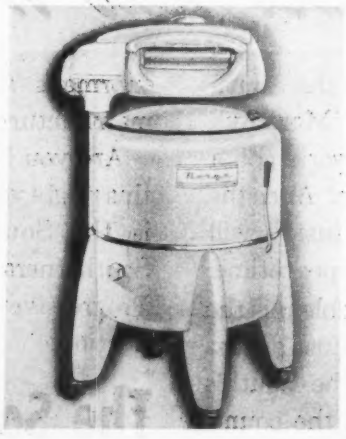
Connected apparatus will function smoothly, resulting in more uniform and efficient operation of all motors and machines — particularly welding machines; and a substantial saving in man-hours, due to greater line stability and apparatus efficiency. Reactors and transformers are of dry type construction. There are no moving parts; are small in size; and can be installed in almost any desired location. No fire-proof enclosures are necessary, and no discharge coils or other safety devices are required. The regulators are made under A. I. E. E. specifications and N. E. M. A. standards.

Plastic Safety Cap

WITH THE EVER multiplying number of electrical outlets on walls, floors, baseboards, work benches, etc., the need of protection of these openings has long been acutely realized. To safeguard children and adults against possible shock when playing or cleaning in or around these openings, as well as protection of the current from interruption by foreign matter in the outlets, a tough, light dielectric plastic safety cap has been developed by Amerline-Chicago, 1753 North Honore Street, Chicago 22, Ill.

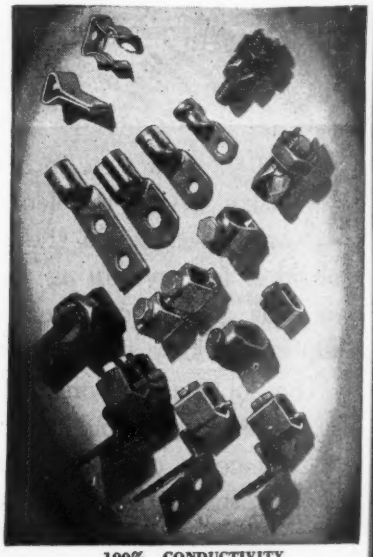
The new Amerline safety cap is entirely of plastic, one-piece construction, with smoothly beveled rim. It fits snugly the standard 110 or 220-volt openings, yet is easily removed. Being of crystal clear transparency, it does not affect the color scheme of any location. It can be used to distinguish 110 and 220-volt openings.

In plants, mills, workshops, display rooms, schools, institutions, offices, as



NORGE STANDARD WASHER—The extra large size tub of this washer is porcelain-lined, and is designed to hold nine pounds of clothes and more than 20 gallons of water. The washer has a splash-proof top with rubber, heat retaining seal. A plastic "rotator" agitates the water, and there is a quick-opening drain. The pressure-cleaner wringer is adjustable for different fabrics.

ILSCO ELECTRICAL CONNECTORS



100% CONDUCTIVITY
Due to the 99% pure electrolytic copper drawn right in our plant from seamless copper tubes . . . even with overload you'll get 100% satisfaction.

Southeastern Representatives
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248 Tranquil Ave., Charlotte, N. C.

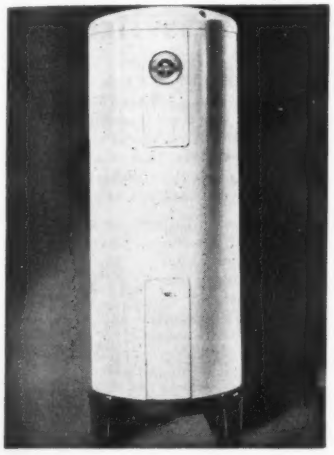
ILSCO COPPER TUBE & PRODUCTS, Inc.
CINCINNATI, OHIO

well as homes, this remarkable new safety-cap is a trouble and money-saving necessity that has wide application. It effectually excludes lint, dust, grit, moisture, etc., which affect current flow. It can be wiped clean with a cloth.

Frigidaire Water Heater

PRODUCTION of postwar models of Frigidaire electric water heaters was announced by C. J. Prashaw, manager, Range and Water Heater Sales, Frigidaire Division, General Motors Corporation.

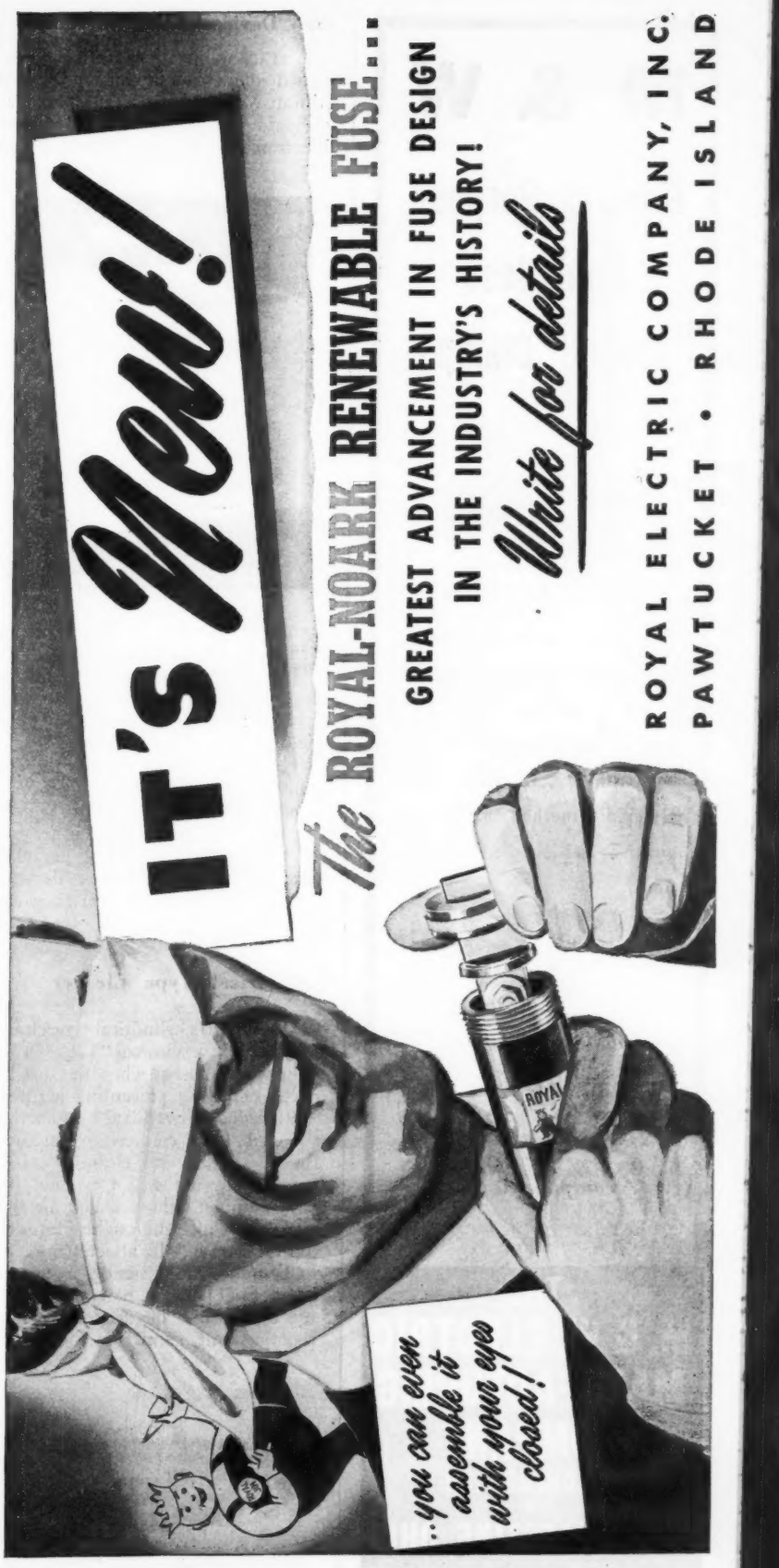
One of the outstanding features of the new water heater is the exclusive Radiantube heating units. These units, especially constructed by Frigidaire, are immersed directly in the



water for speedy heating. They are designed in the shape of a sickle so that as the heating expands and contracts, any scale found on the units falls off and drops to the bottom.

The upright models will be available in both double and single heating units with capacities of 32, 40, 52, 64 and 80 gallons and a 30 gallon, single unit, table top model is also listed on the production schedule. The upright models in both single and double units will stand 57-7/8" high in all models from 32 to 64 gallons. The 80 gallon heaters will be 71-3/8" in height.

Many other important Frigidaire features will be seen in the new water heaters, including a hot water trap which prevents circulation of hot water in the pipes when the faucets are closed; extra heavy spun-glass insulation of more than three inches thickness; cold water baffle plate which prevents the incoming cold water from mixing with the water already heated; and many others.


IT's New!
The ROYAL-NOARK RENEWABLE FUSE...
GREATEST ADVANCEMENT IN FUSE DESIGN IN THE INDUSTRY'S HISTORY!
Write for details
ROYAL ELECTRIC COMPANY, INC.
PAWTUCKET • RHODE ISLAND
...you can even assemble it with your eyes closed!

M & W

General Purpose Solderless Ground Clamps

This brass malleable clamp takes solid wires from No. 8 to No. 4 inclusive. Fastening device consists of a 3/8" bolt with a 7/32" hole. This fastening method makes a positive and simple connection.

Send for copy of

BULLETIN 15

which illustrates our complete line.

THE
M. & W. ELECTRIC
MANUFACTURING
COMPANY
INCORPORATED

EAST PALESTINE, OHIO

New Devices Added to Range

A STREAMLINED modernistically designed all-metal lamp and a built-in Minute-Master have been added as standard equipment to the current Electromaster Banquet Model range,

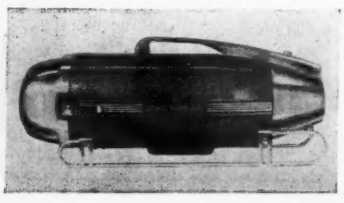
according to an announcement by Gerald Hulett, vice-president.

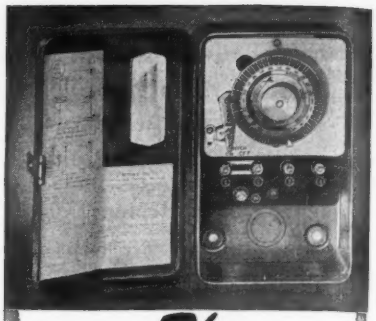
The lamp is scientifically located at the exact height to provide shadowless lighting over the entire cooking and table surface of the range.

The Minute-Master brings the convenience of an accurate timer or reminder signal to the kitchen for cooking, for telephone calls, and other uses. At the end of my pre-set period of time, up to sixty minutes, the bell-gong of the Minute-Master rings as a signal.

Cylindrical Type Cleaner

UNIVERSAL's cylindrical type cleaner features the exclusive "Tattle Tale" light which flashes when the dirt bag needs emptying preventing a loss of suction due to overfilled bag; air tight swiveled hose connection; exclusive thread picking, self-cleaning nozzle, scientifically designed for more effective cleaning; rubber sealed air tight germ trap which thoroughly cleans and purifies air; and 13 attachments: 8½ foot hose, carpet nozzle, bare floor brush, floor polisher, radiator tool, utility brush, can of deodorant, moth proofing unit, germ trap filter, spray-





The
"TOP" VALUE
in
Time Switches

Here's a top-quality, service-proved ON and OFF time switch. Precision built . . rugged and durable . . . with a great performance record. Highly successful for controlling motors, valves, pumps, blowers, oil burners, stokers, attic fans, commercial lights, etc.

A leader when first introduced over ten years ago, now includes many improvements, one of them being telechron motored. Increased volume and war-learned manufacturing efficiency have brought price down to $10.75 list. Write for complete bulletin:

Paragon
300
SERIES
Now
$10.75
List

Telechron
MOTORED

OPERATING ADVANTAGES

1 Self-starting synchronous operation.
2 Complete self-oiling lubrication, patented capillary oiling system.
3 Years of continuous and uninterrupted operation.
4 Practically instantaneous self-starting at full rated load.
5 Gear reduction fully sealed to exclude dust and dirt.
6 Lower power consumption.
7 Underwriters' approved.

PARAGON ELECTRIC COMPANY
1618 TWELFTH STREET
TWO RIVERS, WISCONSIN

Paragon Chicago
BUILDERS OF ELECTRICAL EQUIPMENT SINCE 1923

er, 2 straight wands, and a drapery nozzle.

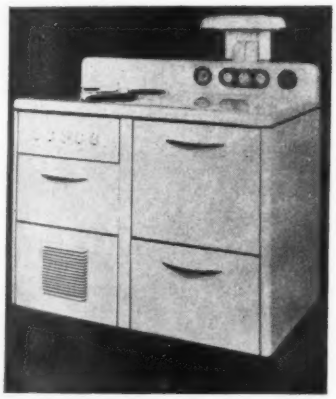
The cylinder type cleaner also has a whirlwind super suction brought about by triple turbine fans; a scientifically designed, resilient mounted ball bearing motor requiring no oiling, and working on either ac or dc. The cleaner has a beautiful blue polymeroid finish.

A radio interference eliminator assures excellent reception of regular broadcasts. Other features include a 20 foot rubber covered cord which will not coil or kink; one piece drawn steel motor cap of blue polymoroid and a twill dust bag with special finish for maximum filtering efficiency.

Manufactured by Landers, Frary and Clark, New Britain, Conn.

Thermador Electric Ranges

A BUILT-IN kitchen heat fan that warms in winter, cools in summer, an oversized 18″ oven that accommodates even the largest roaster, and greater surface working space 44″ wide are among the modern innovations fea-



tured in the new, postwar model Thermador electric range, according to its manufacturer, the Thermador Electrical Manufacturing Company, 5119 District Blvd., Los Angeles, California.

These electric ranges are equipped with new type heating elements which, it is claimed, heat far quicker, hold their warmth longer and, since they can be easily removed, are simple to clean. Other features include a timer clock, deep-well cooker, oven light, non-tilt oven racks, Forget-Me-Not pilot light, a new, longer-lasting construction throughout and a modern, easy-to-keep-clean design.

Family Size Pasteurizer

THE GUARD-IT Manufacturing Co., Chicago, has just announced a "family-size" home milk pasteurizer, with

All you need to hang Chain Suspension Fixtures is a screw driver plus a

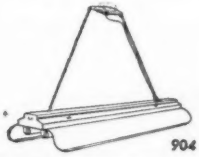
HYDEE HANGER*

Just connect wires, screw to outlet box and the job's done—in a few minutes!

Self-grounding—2-wire cord and plug may be used. Fits standard 4" or 3¼" outlet box or plaster ring. Complete with receptacle, two 5-foot chains, "S" hooks and cord clips. Nothing else to buy. $1.50 Each List

Day-Brite Lighting, Inc., 5435 Bulwer Ave., St. Louis 7, Mo. Nationally distributed through leading electrical supply houses.

*Patent No. D-141024. Others pending. Underwriters approved.



IT'S EASY TO SEE WHEN IT'S DAY-BRITE Lighting

"EFFICIENCY" DEVICES FOR CONDUIT AND CABLE SUSPENSION

EFFICIENCY INSULATOR SUPPORTS

. . . *Eliminates Drilling or Burning Holes in Beams . . . . Lasts Indefinitely!*

●This support is designed for supporting porcelain and glass insulators to beams and angles in open steel construction of all kinds. Because it clamps tightly, making a positive support, the Type K Support requires no burning or drilling.

The head is threaded to receive a set screw which imbeds itself in the beam or angle when tightened. The Efficiency "K" support is made of high quality malleable iron; furnished with case hardened cup point screws . . . sizes 1" to 2½".

♦

Write today for your copy of the latest EFFICIENCY Catalog No. 38B. Contains complete construction and application data on all EFFICIENCY Devices.

Efficiency ELECTRIC AND MANUFACTURING CO.

MANUFACTURERS OF EFFICIENCY ELECTRICAL DEVICES FOR CONDUIT, WIRE AND CABLE SUSPENSION

EAST PALESTINE, OHIO

TAPS

LARGE MAINS
TO SMALL BRANCHES

T&B HINJON JR.*
TEE PARALLEL TAPS

Simple, compact, one-piece construction. Easy to install and tape in gutters and tight spots where it's more handy to turn a single screw than to operate a bulky wrench. Main and branch slip into two powerful self-adjusting jaws. Tighten with screw driver. Branch can't possibly budge loose, yet may be bent to any desired position. Completely Approved by the Underwriters Laboratories.

NOW AVAILABLE in sizes that tap all mains #8 to 1,000,000 CM to all branches #14 to #1.

Sold only through the service organizations of T&B Electrical Supply Wholesalers.

The Thomas & Betts Co.,
Incorporated
Room 423
Citizens & Southern Bldg.
Atlanta 3, Ga.

The Thomas & Betts Co.,
Incorporated
P. O. Box 2372
Charlotte, North Carolina

The Thomas & Betts Co.,
Incorporated
518 Masonic Temple Bldg.
New Orleans 12, La.

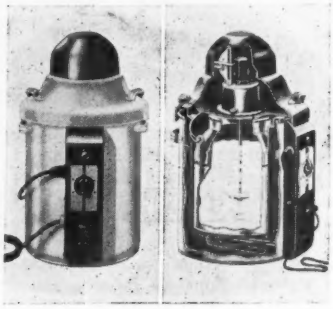
* patented.

T&B

THE THOMAS & BETTS CO.
INCORPORATED
manufacturers of electrical fittings since 1898
ELIZABETH, 1, NEW JERSEY
In Canada: Thomas & Betts Ltd., Montreal

2-gallon capacity and electrical heating and agitation. It will be sold through established dealers and jobbers on a nation-wide basis.

The unit has been developed, explains E. K. Malme, Guard-It president, to meet an increasing desire for pasteurized milk in rural areas.

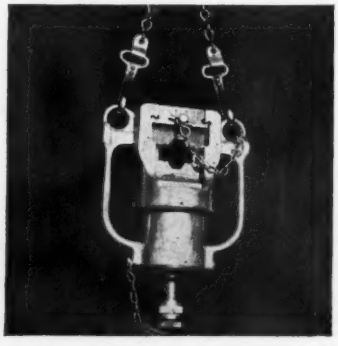


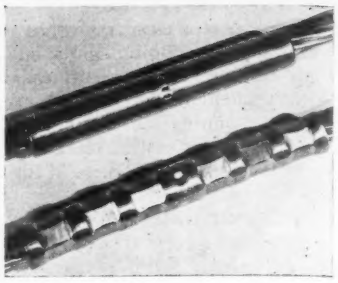
The Guard-It home pasteurizer sells for about $45; operates electrically from an ordinary 60-cycle, 110-volt line; provides automatic timing and temperature control and uniform heating features comparable to commercial units. It conforms to U. S. Public Health requirements for proper pasteurization. The unit is marketed as the Safgard Home Milk Pasteurizer.

Compression Splicing

A NEW and improved method of compression splicing known as the "T & B" Method" has been introduced by Thomas and Betts Co., of Elizabeth, N. J. This method, developed to meet special wartime needs of the Armed Forces, has now been converted to civilian use with several interesting applications especially suited for the electric utility industry.

One of the most attractive items in this new line is the T & B Compression Splice for ACSR jumper loops. It is well known that the jumper loop has long been the source of line failures due to the cumulative effect of increasing resistance. Heating and cooling cycles build up oxide deposits





at the clamp causing increased resistance.

In developing aluminum connectors for aircraft cables, T & B engineers reached a solution on the aluminum oxide problem and this is the feature of the T & B Method. In short, this may best be described as "the squeeze that scrapes". A Hex compression toward the center of the strand was introduced and sufficient pressure was applied so that after cable and splice had formed a solid mass, the force was such that it tended to extrude or lengthen out the splice.

This cold flow of the metal combined with the serrations on the inside of the splice, penetrate the oxide film of the conductor and create a perfect electrical connection.

GEDNEY
GEDNEY FITTINGS...FIT!
FITTINGS
GEDNEY Fittings and Conduit Bodies are rigidly inspected, cleanly finished and carry the approval of Underwriters Laboratories. They are carefully packed in metal-edge cartons, convenient quantities, clearly labeled. Wholesale distribution only. Write for catalog.
GEDNEY ELECTRIC COMPANY
RKO BLDG. RADIO CITY, NEW YORK, N. Y.

Modernization of Dairy Wiring

(Continued from page 44)

For example, the feed to a homogenizer, powered by a 20 horsepower motor, was handled by a conduit-condulet combination to get the needed offset from the duct. The current was brought from the latter, by a short length of conduit to a T-type condulet. A longer length of conduit takes the feed to a second "T" condulet, whence the "juice" goes to the machine. To give the vertical run the required rigidity, the lower and the upper condulets are anchored to floor and ceiling, respectively, by means of a short length of conduit, an extension nipple and a pipe flange.

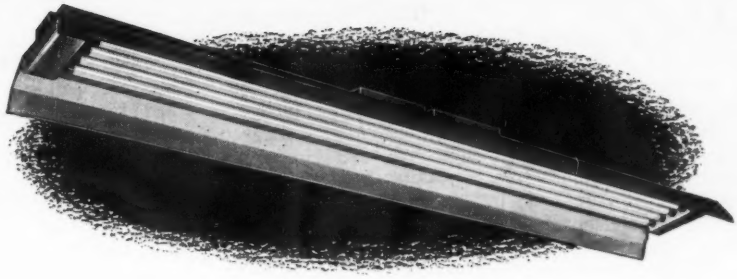
In the engine room, the plant's largest compressor, a 240 horsepower synchronous unit, is controlled by an individual panel. Two 400 ampere, and two 200 ampere vacuum break, safety switches control the current to the motors which power four smaller compressors of varied size. These switches are mounted on the east wall of the building, as is another battery of switches which control the powering of five pumps drawing water from driven wells for plant washup, hot water supply, and the like. Magnetic starters for the pump motors are well-mounted above the control switches.

As a robot watchman to keep a check on the ammonia lines, Stewart installed a pressure switch in each of the ammonia "headers." This type of switch operates a series of relays which function to shut off all compressors, in case of a break in an ammonia supply line. At the same time, the switch energizes a warning siren.

One of the major step-ups in the plant's over-all efficiency is its new lighting system. In such places as the testing laboratory, fluorescent lightning has raised the illumination from an unknown low to a present 45 to 50 foot-candles at the work level. The illuminating factor has been brought up, too, in various other parts of the building.

The general office is lighted by approximately 60 four-lamp, louvre-type luminaires. These fixtures are mounted in two parallel rows, about nine feet from the floor, and are spaced eight feet from center to center.

The ice cream making department has a 25-foot ceiling, because of its two-story height. By reason of its location at one end of the building, natural lighting is available. Artificial illumination is supplied by two 500-watt frosted lamps in Holophane, glass diffuser fixtures. The remainder of the plant is lighted by approximately



*COLOVOLT COLD CATHODE INDUSTRIAL FIXTURES

Here is the new Colovolt industrial fixture, one of a complete line of industrial and commercial "packaged" units. Equipped with the standard 93" Colovolt 10,000 hour lamp, Colovolt fixtures may be used singly or in continuous line lighting in multiples of 8 feet. Instantaneous starting, no flickering, guaranteed for 1 year except for failure due to breakage are extra advantages of the Colovolt Cold Cathode low voltage fluorescent lamp. The long life expectancy of Colovolt lamps may be realized even when constantly turned on and off, and *pre-scheduled re-lamping, with no loss of production or time, is now possible with Colovolt installations.*

*Trade mark registered U. S. Pat. Off.

Contact your electrical wholesaler or jobber, or write us for full details and prices.

GENERAL LUMINESCENT CORPORATION
680 S. FEDERAL STREET CHICAGO 5, ILLINOIS

DEPEND ON—INSIST ON—
P. R. MALLORY & CO., Inc.
MALLORY
Capacitors

Mallory Type "P" Capacitor:—Plastic case overcomes moisture absorption problems, and provides maximum insulation. May be used to replace cardboard insulated aluminum-case capacitors. Splash-proof plastic end cap and simplified "snap on" mounting bracket available when capacitor is used as original equipment.

Distributed by
INSULATION AND WIRES INCORPORATED
SAINT LOUIS 3, MISSOURI
BOSTON 20, MASS. DETROIT 2, MICH. ATLANTA 3, GA.
HOUSTON 2, TEX. BLUEFIELD, W. VA. NEW YORK 7, N. Y.

SITTLER COMPANY
CHICAGO 7, ILL.

H. A. HOLDEN, INC.
MINNEAPOLIS 3, MINN.

TRI-STATE SUPPLY CORPORATION
LOS ANGELES 13, CAL. • SAN FRANCISCO 7, CAL. • SEATTLE 4, WASH.

150 RLM, dome reflector type fixtures mounting 200 or 300-watt frosted lamps.

At two points, where bottles are inspected for nicks or cracks, as the washed containers move along the conveyor system to the filling machines, high visibility for inspecting personnel is supplied by a dual, 40-watt fluorescent lamp installation in an industrial-type fixture. A unique mirror arrangement provides a clear view of the bottles' rear sides.

Dallas Wiring Group Organizes

(Continued from page 38)

Dallas Adequate Wiring Committee, opened the meeting and presided. Talks were made by P. M. Rutherford, advertising manager, and H. M. Walne, residential sales manager, both of the Dallas Power and Light Company. Walne is committee secretary.

An adequate wiring film was shown and adequate wiring kits, prepared by the power company and containing all the necessary information about the program, were distributed.

A schedule of additional meetings will be worked out so that the information will reach architects, builders, and dealers.

A signal accomplishment of the Dallas committee, announced at the time of the program "kick-off," was the pledge obtained from a Dallas firm engaged in erecting housing on a large scale. The American Home Realty Company plans 2,200 homes and 1,000 apartment units within the next three to five years and every one will contain basic adequate wiring. Four of the homes had been completed and wired at the time of the announcement.

Capitol Comment

(Continued from page 22)

men. Some think it is logical that they organize—not in the same union as the workers, but in a union of their own. Those who hold this view contend that it is only fiction that they represent management. They say they are wage earners like the rest and should have an opportunity to bargain collectively.

Will Not Take Over Efficient Industries

In their public ownership program the British are taking over industries in the order of their efficiency. No industry will be nationalized, the government reiterates, unless there is good reason to think that greater efficiency will result than has been the case under private operation. The effect of this policy, the government thinks, will be to make private enterprise more efficient.

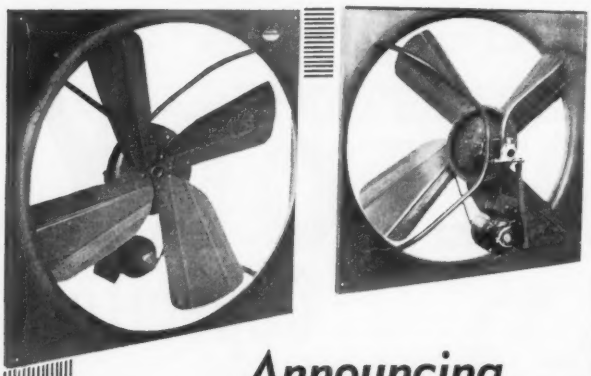
As in Russia, the British publicly-operated industries are insisting upon standards of individual productivity. —Paul Wooton.

Contest Develops Firmer Demand

(Continued from page 21)

invited to enter the contest as many times as he pleased, it was necessary for the multiple-entry contestants to have several blank forms. These were made available at the stores of co-operating New Orleans appliance dealers—thus forcing the consumer to expose himself to active selling by appliance dealers as well as to the sales arguments in the book. There was no obligation to buy or even to order appliances, however, in the offer of multiple entry blanks.

"Stars to Brighten Your Housekeeping" went into detail on the comfort and pleasure of living in a



Announcing . . .

"Silver-Aire" Fans

EXHAUST OR ATTIC

We take pride in announcing the "Silver-Aire" Fan, for both exhaust and attic use. These fans are supplied with either G.E. or Westinghouse motors, and are available in 36" and 42" sizes.

Available immediately in limited quantities to jobbers ONLY.

A PRODUCT OF

C & H AIR CONDITIONING FAN CO.

INCORPORATED

1603 DEKALB AVE., N. E. ATLANTA, GA.

THE MODEL 130

Automatic Time Switch

For turning signs, window lights, lighted billboards, and so on, ON and OFF automatically. Will handle loads up to 3300 watts. Easy to install and simple to operate. Load can be turned ON or OFF at times not called for by Time Switch. Self-starting electric motor will operate at temperatures down to 20 degrees below zero. New features, new compact size . . . New opportunities for your profit!

30 AMPERES . .

3300 WATTS . .

$13.00!

Write for Information and Discounts.

AUTOMATIC ELECTRIC MANUFACTURING CO.

MANKATO • MINNESOTA

Handbooks of Adequate Wiring

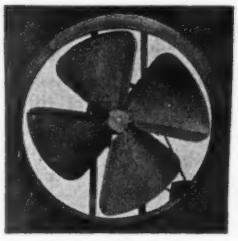
Two valuable booklets available with Electrical South.

"Handbook of Residential Wiring Design" and "Handbook of Farmstead Wiring Design," summarizing the latest authoritative information on adequate wiring systems, may be obtained with a three-year subscription to Electrical South at the special price of $2.50 for a limited time. Send name, address, and remittance at once to make sure of getting your copies.

ELECTRICAL SOUTH

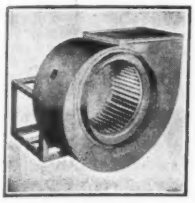
Grant Building Atlanta 3, Ga.

THE "Fresh-Air MAKER"



provides fully the comfort and ventilation so essential in army barracks, mess halls, hospitals, headquarters, theaters and other military buildings. Its fine design and sound construction meet the specifications drawn for army fans and it is particularly adaptable to the various types of installations found in army buildings.

HY-DUTY BLOWERS

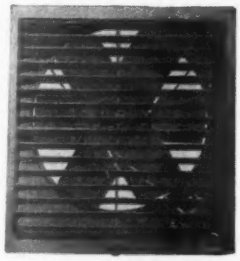


Single Inlet—Double Inlet. 400 CFM to 12,500 CFM.

Single Inlet Blower illustrated at left is particularly adapted for ventilation of mess halls in military establishments.

VENTILATING DIVISION
SCHWITZER-CUMMINS COMPANY
1125 MASSACHUSETTS AVE. • INDIANAPOLIS 7, U. S. A.

Reed

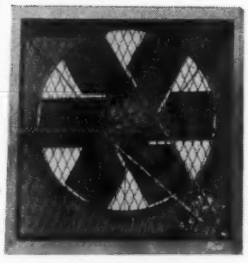


WIND-O-VENTS
Reversible
Quiet
Portable
Dependable

RUF with Divert-O-Vent

CERTIFIED RATINGS

TEST STATEMENT — Each Reed Unit Fan bears a certified rating label of the Propeller Fan Manufacturers Association. This label certifies that the fan has been tested in strict accordance with the Standard Test Code as approved by the American Society of Heating and Ventilating Engineers.

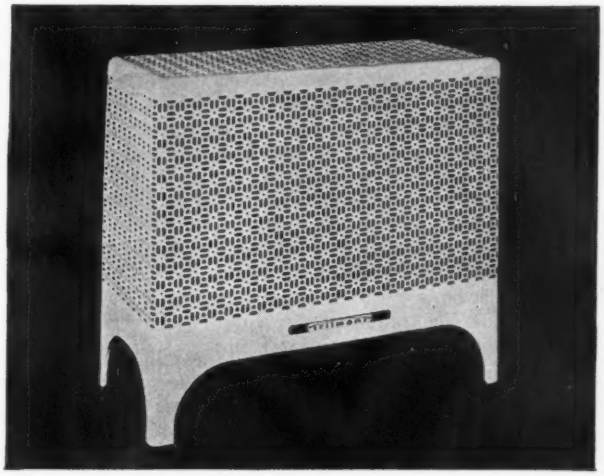


RUF with Rear Wire Guard

REED UNIT-FANS, INC.
Manufacturers of Ventilating Equipment
1001 St. Charles Ave., New Orleans 8, La.

YOUR TRILMONT DISTRIBUTOR IS READY—

with Prompt Deliveries . . . not vague promises



THE manufacturers of Trilmont Safety*Electric Heaters anticipated "trouble ahead"—ordered their materials early and got into production immediately . . . with the result that Trilmont distributors will get their full quota in July (not "sometime").

To make sure that *you* will be ready for the early fall buying period, put your order in now for America's best-known, fastest-selling heater in its price class—a price that assures you more profit per unit than the total retail price of conventional heaters!

'NOTE: The Trilmont Model 'A,' which won The National Safety Award has been augmented by a new model 'AA' which answers the problem of how to get sufficient heat on low voltage lines.

Don't leave your customers "out in the cold" . . . be sure to get your Trilmonts NOW. Write today for name of nearest distributor.

MODEL A—1200 WATTS—10 AMPS @ 120 VOLTS
MODEL AA—1320 WATTS—12 AMPS @ 110 VOLTS

$33.00 *including Excise Tax and Heavy Cord Set*
95c extra in Western Zone

TRILMONT PRODUCTS COMPANY
24TH & WALNUT STREETS • PHILADELPHIA 3, PA.

home served by electrical appliances. For example, a page plugging the automatic dishwasher was headed, "Consign your dishes to this magic cabinet . . . " The body copy continued: "Nothing outdates your home more than a kitchen that is out of step with the times. And yet, nothing enhances the intrinsic value of your home more concretely than up-to-the-minute equipment in that most lived in of all rooms—your kitchen.

"Certainly, no modern electric home would be complete without an electric dishwasher to perform the unpleasant chore that follows every family meal.

"The electric dishwasher washes, rinses and dries glasses, dishes, silver. It keeps your hands out of soapy water and saves your nerves. The operation is simple. All you need to do is load the racks and set the controls. In a few minutes, dishes are sparkling clean, dried, ready to use again. Everything is done speedily and automatically—without effort.

"It will be a thrill to show your friends your electric dishwasher-equipped kitchen . . . a place for happy living as well as working."

Every variety of electric appliance received a plug. To sell the benefits of cooling by attic or window ventilation, one page of Stars pointed out that, "there is no longer any need of sweltering when indoors during the long, sultry summer months. The home you own, no matter how large or small, can be made comfortable day and night with a modern system of ventilation.

"Comfort cooling is the name of this system . . . it isn't the name of a piece of equipment, a fan or air conditioning apparatus. It is a descriptive title used to identify a method of providing summer comfort . . .

"In the daytime, this ventilating system produces in the home an atmosphere as pleasant as a cooling breeze in the shade of a tree. It can make any room in the house livable even on the hottest days."

Advertising to drum up public interest in the Electrical Association contest began with small, one column by three inch "teaser" ads, appearing daily in one or another of the three New Orleans papers, heralding to readers that "you can win prizes worth $5,000! Better living appliances contest begins soon—watch for details in this paper."

The teaser ads were succeeded, soon, by five column, 17 inch ads announcing full details of the appliance contest. These used for a main illustration a photograph of the modern unit kitchen being offered as the first prize, and headlined "fifty better living appliance prizes you can win!"

Tieing in with the five column ads, which appeared simultaneously in all of the Crescent City newspapers, the Association also employed radio spot announcements, street car, and bus cards, and customer statement-stickers to drum up entries. This heavy barrage of advertising continued throughout the contest period to keep interest high, and to encourage those who had already entered to write additional essays on the advantages of electrical living.

Campbell's Service After the Sale

(Continued from page 14)

plete, modern, sound treated studio has been furnished at the store. The radio is demonstrated to the customer in the surroundings of fine furniture, beautiful draperies, a plush rug and all that goes into the making of an elaborate living room.

The living room studio was designed with the knowledge that the proper

A Necessity In Every Home

THE

Sepco

AUTOMATIC ELECTRIC

WATER HEATERS

NOT NEW

On the Market Since 1915

LOOK INSIDE
RUGGED BUT SIMPLE
CONSTRUCTION

SATISFIED USERS
ARE BOOSTERS
PROMOTES SALES

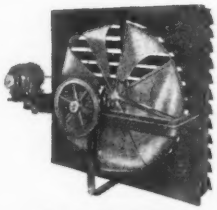
Not Plentiful at Present, But Will Be

Manufactured by

The Automatic Electric Heater Co., Inc.

POTTSTOWN, PENNA., U. S. A.

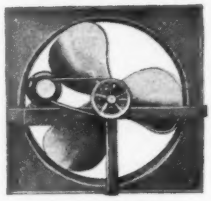
Here's How to Lick that Hard Ventilating Job!



Sizes 18" to 32"

MARTIN
Bucket
EXHAUST FANS

for industrial plants and various installations where abnormal ventilating requirements exist such as . . .
•Stagnant Air •Excessive Heat •High Humidity
•Chemical Fumes •Severe Smoke.



Sizes 24 to 72"

MARTIN
Utility
EXHAUST FANS

A sturdy fan to fill a variety of needs. For homes . . . for commercial and light industrial uses.

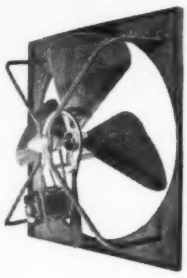
Write for information.

MARTIN Fan & Blower Co.

4632 West 21st Place Chicago 50, Illinois
Lawndale 8474-5-6. Long Distance Olympic 5252

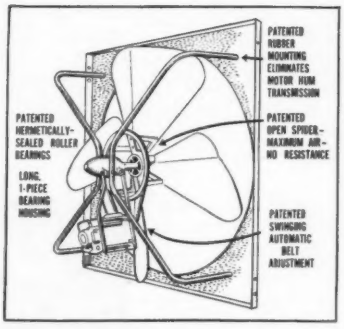
Try to Match this

PERFORMANCE, CONSTRUCTION, *Sales Appeal*



"A Breeze" to Sell

Imagine an attic fan with these features; no oiling, no belt adjustment or alignment, no motor hum transmission, long life. Well, it's here and it's your chance to cash in on an item that is a breeze to sell. The fan with patent features.


PATENTED RUBBER MOUNTING ELIMINATES MOTOR HUM TRANSMISSION
PATENTED OPEN SPIDER-MAXIMUM AIR-NO RESISTANCE
PATENTED HERMETICALLY-SEALED ROLLER BEARINGS
LONG, 1-PIECE BEARING HOUSING
PATENTED SWINGING AUTOMATIC BELT ADJUSTMENT

Immediate delivery on complete 42" fan chassis less motors. Limited supply of fans with motors. Any 1/4 or 1/3 h.p. motor can be easily installed. Write today for folder giving full particulars on this revolutionary fan.

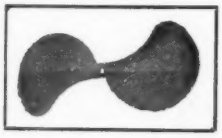
All patents applied for

STONEWALL COMPANY

Southern Sales Office: 813 Bona Allen Bldg. Atlanta, Ga.

FACTORY: 138 WEST 54th ST., CHICAGO, ILL.

FAN BLADES



Model 421 CO 22" Blade

Model 421 CO, 2 blades, operates on 1/6 H.P. motor or larger at 1,725 R.P.M. Made in either 1/2" or 5/8" bore. Packed 12 to carton.

Made by a manufacturer with years of ventilating experience, with thousands in satisfactory use throughout the country.

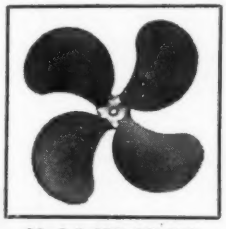
These blades are designed and engineered to produce a maximum flow of air, are uniform in size and shape for equal distribution of load, dynamically BALANCED with every desirable feature of STRENGTH, TRUENESS, QUIETNESS and BEAUTY incorporated into them.

Prices quoted on request.

Model 420 CO (shown at right)—4 blades, operates on ⅓ h.p. motor or larger at 1140 r.p.m. Also operates on 1/3 h.p. or larger at 1725 r.p.m.

Model 424 CO (shown at right)—4 blades, operates on 1/6 h.p. motor or larger at 1140 r.p.m. Also operates on ⅓ h.p. motor or larger at 1725 r.p.m.

Made in either ½" or ⅝" bore. Packed 6 to the carton.



Model 420 CO 20"
Model 424 CO 24"

Products of C & H Air Conditioning Fan Co., Inc.
Distributed by

Texas & Okla. Sales Office:
508 *Insurance Building*
Dallas 1, Texas

APPLIANCE DISTRIBUTING CO.
163 WALTON ST., N. W.
ATLANTA 3, GA.

Lloyd appreciates the patience and forbearance you have shown when overloaded manufacturing facilities slowed down delivery of Lloyd Flex-Loc Lamp Holders and Lloyd Automatic Starters. We are now at home in this large modern plant, where greatly increased facilities will make possible greater service to all our customers . . . service which we hope will match in quality the matchless Flex-Loc Lamp Holders and Lloyd Automatic Starters.

LLOYD POLICY INSURES QUALITY

651-F
FLEX-LOC Lamp Holder

Automatically self-adjusting. Engineered to fit ALL STANDARD spacings. POSITIVE AUTOMATIC LOCK. PERFECT ELECTRICAL CONTACT. Brass contacts grip BOTH sides of lamp pins securely.

Listed and Approved by Underwriters' Lab., Inc., and Canadian Standards Assoc., App. Division, E.T.L. Test Report 314454 Available. Patented—Other patents pending.

FS-40
AUTOMATIC Starter

CUTS OUT deactivated or flickering lamps. CUTS OUT current to lamp and ballast. Increases life of lamp and ballast.

Listed and Approved by Underwriters' La., Inc. Certified by E.T.L., Spec. 6. Pat. Nos. 2200443-2228210.

LLOYD PRODUCTS COMPANY

Providence 5 Rhode Island

GEORGE E. ANDERSON CO.
Sante Fe Bldg.,
Dallas 2, Texas

S. L. BAGBY COMPANY
822 W. Moorhead St.,
Charlotte, N. C.

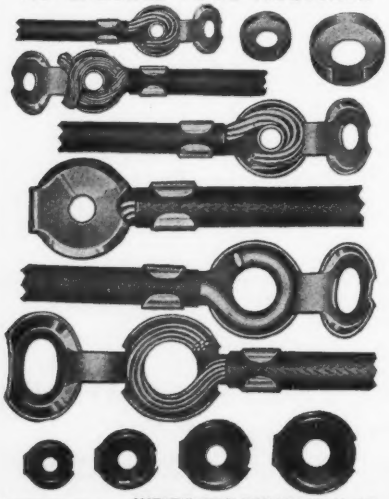
WILLIAM H. BERRY, JR.
88 Pryor St., S. W., Atlanta 3, Ga.

HELWIG SPEER
Carbon Products

BRUSH KITS
of all descriptions
CARBON BRUSHES
of all descriptions
HELWIG COMPANY
2544 N. 30TH ST. MILWAUKEE 10, WIS.
Southern Offices
Room 316 Walton Bldg., Atlanta, Georgia
Telephone: JAckson 6097
323 Northwest Second St. Oklahoma City 2, Oklahoma
Telephone: 2-6881
3000 Block McKinney, Houston 3, Texas
Telephone: Preston 1610
1913 Washington Ave., St. Louis, Mo.
Telephone: Chestnut 6510

FOLDING **DOUBLE** CUPPED
★ WASHER LUGS ★
A SIZE and TYPE *for every need!*

NO SPECIAL TOOL REQUIRED



WRITE FOR BULLETIN 8-DF
K&H KRUEGER & HUDEPOHL
Solderless Terminal Lugs and Connectors
VINE AT THIRD-ES • CINCINNATI 7, OHIO

atmosphere aids to a great extent the sales story on an expensive radio. It has been furnished the way a home of a buyer of an expensive radio might be furnished, and has greatly promoted sales of this type of set.

In the service department, a time saving idea is used by the employment of a woman for conducting business.

"We learned years ago that a woman with no techical knowledge is far superior to a technician in taking in and delivering service work," reports Mr. Campbell. "Time is saved and long winded technical discussions are avoided."

This employee is trained to make practical written explanations of a customer's complaint from which the service department can diagnose the trouble. The service department itself is completely isolated from the sales floor, as experience has proven, according to Mr. Campbell, that customers should not be permitted to enter it.

"In arranging our store," he says, "we have taken this into consideration and it is practically impossible for the customer to break through to the service department."

To further increase its "service after the sale," a home appliance consultant has been employed by the company to consult on home modernization, especially the kitchen, and proper use of appliances. She is Mrs. Valeria Freeman, who has had seven years experience in the field, and is a graduate of the University of Tennessee, where she studied electrical appliances.

Her job is to insure the customer of maximum efficiency and proper care of electrical equipment. She will conduct regular schools for homemakers, including cooking and how to use a washing machine with greatest efficiency.

She is also available to customers for suggestions as to size, type and quantity of appliances, based on the size of the customer's home and family. With a background of home economics, she also advises and teaches preparation of foods on the new ranges, plus the use of the refrigerator in preparing ice cream, frozen salads and other delicacies.

Another unique feature of the remodeled store, and one which has brought widespread attention in Shreveport, are the display windows. They are set at an angle, with the bottom of the glass extending back approximately 12 inches behind the top. This eliminates glare, and at night the lighting is so designed as to give the appearance of having no windows.

"The electricity for the lighting of our windows is the best investment we make," says Mr. Campbell.

The Campbell Radio Company has been doing business in the same location for the past 14 years. It made its initial start into the appliance field shortly before Pearl Harbor, but was forced to change methods of operation during the war.

Now, upon entering the appliance business wholeheartedly, the old service department which has always been operated at a profit, is remaining to aid sales. "Service after the sale" isn't just a motto, but a pledge which is bringing in the customers.

Subalox
LEAD AND ALUMINUM PAINT
Spot or Full Coat
for
Galvanized Structures.
It sticks, it blends.
Subox INC.
NORTH ARLINGTON, N. J.

Relax in Cool Comfort

HOTEL
Mayfair
Saint Louis
AIR-CONDITIONED

WASHING MACHINE

Replacement Parts

For All Makes
WHOLESALE

Serving Southern Dealers
and Repair Agencies

PROMPT SHIPMENTS

DISTRIBUTORS { Goodrich Wringer Rolls
Gates Belts
T-K Range Parts

Trible's

WASHING MACHINE REPLACEMENT PARTS

811 - 9th St., N. W.
WASHINGTON 1, D. C.

MEMBER, APPLIANCE PARTS JOBBERS ASS'N.

Start with the RIGHT RESISTORS

Plans for new products and the modernization of existing ones are on every drafting board. In the electrical and electronic industries manufacturers are indeed entering a competition of design. You and every other manufacturer are studying available components.

When selecting resistors, give consideration to the developments that have been made to meet the severe conditions of the past several years. A resistor that better meets your requirements will add to the utility of your product.

The new Ward Leonard Hand Book "Resistors" gives resistance values, and shows terminals, mountings and enclosures. Send for a copy today.

WARD LEONARD
RELAYS • RESISTORS • RHEOSTATS
Electric control devices since 1892

WARD LEONARD ELECTRIC COMPANY • **37 SOUTH STREET**
OFFICES IN PRINCIPAL CITIES MOUNT VERNON, N. Y.

PARTS

FOR

MOTORS
FANS
CONTROLS

PROMPT SHIPMENT FROM LARGE STOCKS

AUTHORIZED PARTS DISTRIBUTORS

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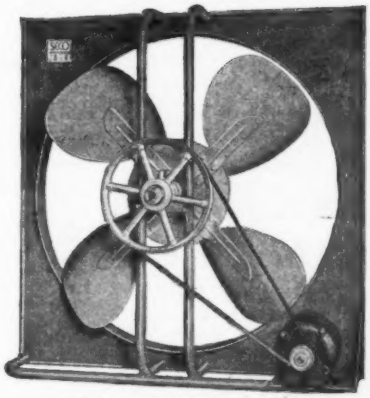
Its simplicity of design permits easier installation in Walls, Attics, or Penthouses.

SECO Fans deliver a maximum volume of air at slow speed, with extreme quietness.



...ideal for
ATTICS
SCHOOLS
CHURCHES
and for
Industrial Installations

AVAILABLE SIZES
24", 30", 36", 42", 48".
(3800 to 18,500 C.F.M.)

Write for Illustrated Bulletin, Specifications & Prices.

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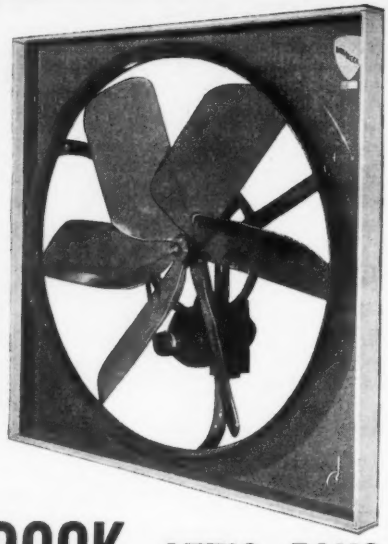


TIP
Next Year's
Balance
NOW
with

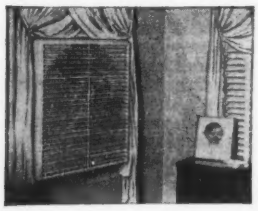
BAR-BROOK ATTIC FANS

Next year's sales are being made *this week* all over the country!

We aren't talking about back-orders—we're talking about the business which will go to smart dealers IN THE FUTURE because of the quality merchandise they're selling today. Merchandise like Bar-Brook Attic Fans, and Bar-Brook Window Fans.

Solid merchandise; merchandise with a background—AND a future. Every good dealer knows that his best salesmen aren't on the payroll—they're the satisfied users of merchandise he has sold in the past, no matter what he's peddling.

When Sam Jones spends an evening enjoying Tom Smith's attic ventilation and wants to know more about it, the future is off to a good start.



The *New* Bar-Brook Window Fan

At last, a window fan of modern, functional design. Ideal for apartments, small homes, offices. Only 5¼" thick. Looks like venetian blind.

Things which will make him want to know more about Bar-Brook include its efficiency . . . certified ratings . . . silence . . . economy . . . easy installation . . . aerodynamic blade and orifice design . . . and, above all, its unbeatable COMFORT COOLING!

Now is the time to find out about YOUR territory!

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Southwestern Representative:
Geo. E. Anderson Co.
Santa Fe Bldg., Dallas, Texas.

BAR-BROOK SHIELDS YOU FROM SUMMER HEAT

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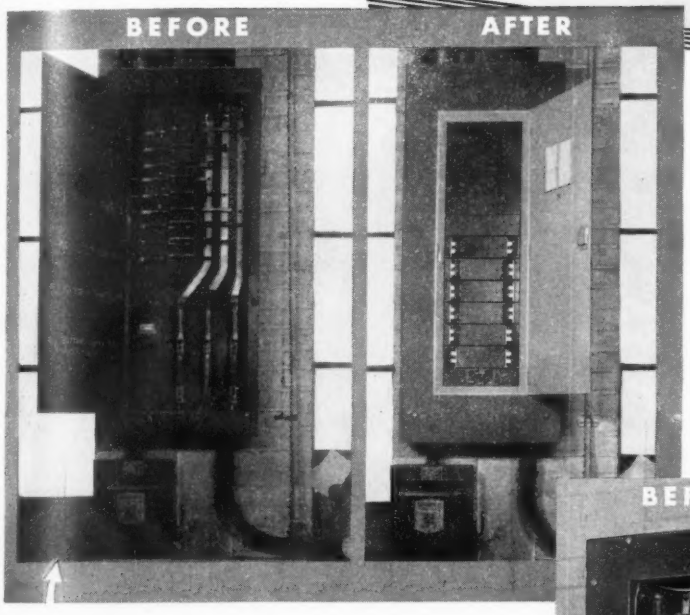
HERE IS A

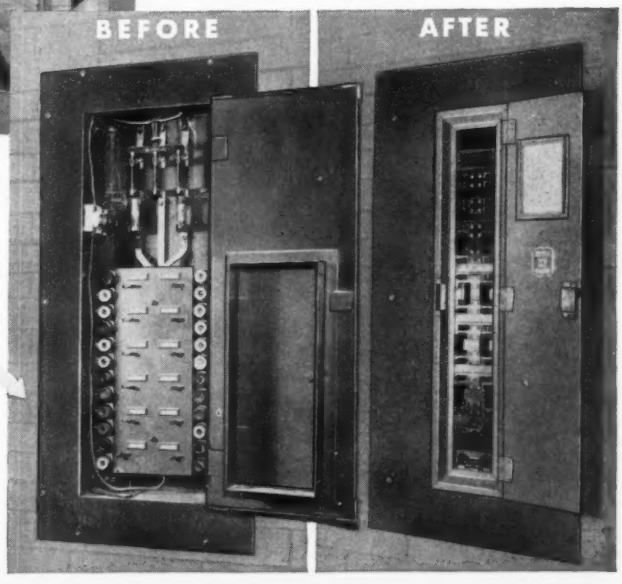
CONVERSION PLAN

THAT REALLY PAYS OUT

• *Here are two typical examples of conversions which involved a minimum of installation time and labor and brought the following results:*



1. *Increased panelboard capacities and added modern circuit breaker convenience and protection.*
2. *Utilized existing boxes and conduit.*
3. *Conserved power previously lost through overloads.*
4. *Eliminated the replacement of branch circuit switches and fuse clips due to excessive heating.*



300% MORE CAPACITY . . .

From three to twelve 3-pole circuits and provision for eight more whenever needed. Existing box was used and no conduits added.

138½% MORE CAPACITY . . .

From 13 to 31 single and two-pole circuits. In addition, a needed 3-wire circuit was provided at bottom of panel. A speedy and economical changeover.

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

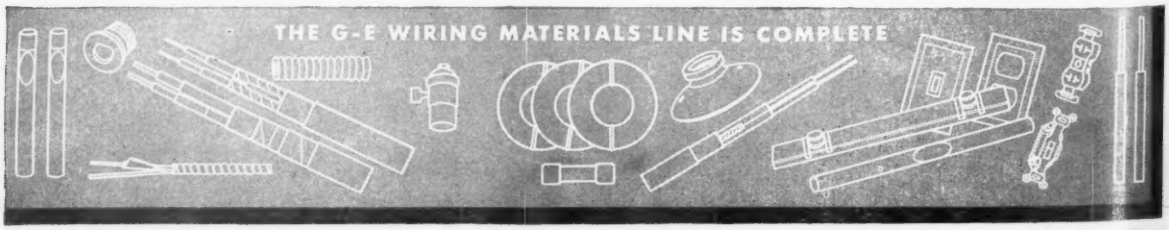
IT'S PVX THE NEW NON-METALLIC SHEATHED CABLE FOR RESIDENTIAL AND FARM WIRING

Take a good look at the benefits of this new thermoplastic-insulated cable. Check its features against your jobs' requirements. You'll find many reasons for using it in new wiring, rewiring or maintenance work.

The Type T thermoplastic-insulated conductors, paper wrap, and over-all braid on PVX all strip easily to save time in making splices and connections. PVX (14-2) weighs only 77 pounds per 1000 feet, or 27 pounds lighter than comparable Type R non-metallic cable. This lighter weight makes handling and installation easier, reducing "wear and tear" on busy workmen. The over-all braid is tough and moisture resistant, with an improved finish that makes it smooth and non-tacking.

There are many other advantages that make PVX especially well suited for open and concealed work where permitted by local Codes and the National Electrical Code. It resists flame, oils, acids, and alkalies. Conductors are permanently colored for positive identification. PVX is available with two or three conductors in sizes 14 to 4, approved for 60 C operation.

Ask your G-E Merchandise Distributor for more complete information, or write to Section W2-7-16, Appliance and Merchandise Department, General Electric Company, Bridgeport, Conn.



GENERAL ELECTRIC